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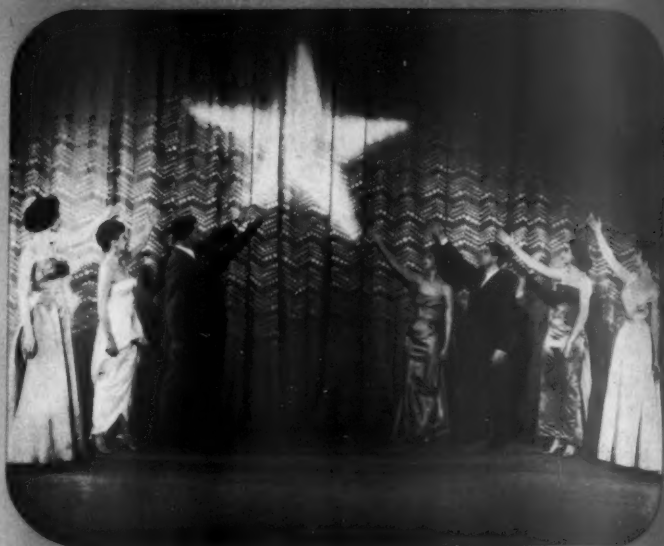
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A P A R A C T I V I T Y





Arkla "Gaslites" add a touch of glamour to this Gulf Coast motel

THE gas industry's fast growing infant—the gas light—is rapidly passing the fad stage across the nation, a survey of leading manufacturers indicates. Some 250,000 lights had been installed as 1958 came to a close, and those closest to the "new" industry are predicting that sales may reach 500,000 during 1959. To determine the current position of this new load potential, the "A. G. A. Monthly" presents an account of gaslight's revival, beginning on page 2. Fourteen manufacturers, led by Arkla Air Conditioning Corp., are currently doing a brisk business in an area that was considered dead some two generations ago. . . . Otto E. Zwanzig, one-time director of A. G. A.'s PAR Plan and now general sales manager for British Columbia Electric Co., Ltd., enlivens this issue with an account of the vastly improved customer acceptance of natural gas in the Vancouver area. His "Vancouver Story" begins on page 7. . . . Gas storage continued to advance on all fronts (see page 10) during 1958. Total capital investment in storage facilities and cushion gas is now in excess of \$650 million. . . . The gas industry continued its steady climb during 1958. In the gas-heated homes area, an increase of 6 per cent was reported. Details begin on page 19.

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1959 gas light sales may reach 500,000



Landings by gaslight are common at Benton County Airport in Arkansas where a string of Arkla "Gaslites" are located. It is the first such installation in the United States

*The sudden, but not surprising, comeback
of gaslight has captured the entire nation's fancy*



"Gaslites" by Arkla add a gracious touch to institutions and businesses. This used car lot in Shreveport, La., is an example.



The Cabana Beach pool at Gulfport, Miss., has the distinctive touch of gaslight by Arkla, the No. 1 gas light manufacturer.



400-home subdivision at Little Rock (above) will be the first street-lighted by Arkla. Below, lights are mounted on brick walls.





The "Heritage" and a very pretty housewife in Washington, D. C.'s Sleepy Hollow Woods



Mark Gray (r.), great-grandson of Sunshine Mantle Co.'s founder, and friend admire Sunshine gas lamp



Exhibiting the first "Evergl" gas lamp on his lawn is Bill Weatherwax of Weatherwax Industries

Gas lamps, which followed the buggy into virtual oblivion two generations ago, have returned to light the way to increasing gas industry sales.

Today, people everywhere are rediscovering gaslight. Throughout the nation, newly installed gas lamps are seen over doorways and driveways, parking strips and patios, clubs and restaurants, city streets—and even along airport runways.

The comeback of gaslight, while sudden, is by no means surprising. Gaslight's soft radiance, which resembles bright moonlight, has a beauty all its own. In many places, such as MacDougal Alley in New York's Greenwich Village and the Champs Élysées in Paris, old gas lamps have been preserved and kept burning through the years as both a decorative touch and a reminder of mellower days.

The first practical use of gas was for lighting. The original public gas street lights were installed in the Pall Mall district of London in 1807. In 1812, Parliament granted a charter to The London and Westminster Gas

Light and Coke Co., the first gas company in the world.

Earlier, in 1792, William Murdock, a British engineer, had lighted his cottage with gas. By 1798, he had developed his invention on a larger scale, and was using 900 gas burners to light a cotton mill.

Following these successes, gas lighting spread quickly to other countries. Baltimore, in 1816, was the first American city to light its streets with gas; and the predecessor company of Baltimore Gas and Electric Co. was (also in 1816) the first gas utility in the United States.

After 1816, the use of gas grew steadily. By 1875, the gaslight era had arrived, and the old lamplighter fast became a familiar figure on the American scene.

Gas lighting's heyday in the 19th century emerged after the perfection of the incandescent gas mantle, which was invented by Baron Auer von Welsbach (who received his title for the invention). The incandescent lamp increased the candlepower of a gas flame many times over by utilizing a mantle impregnated with rare earth metals which glowed brightly when heated by the flame.

"Everglawn Lite" by Bruest, Inc., makes a statement for this home in Independence, Kan.



The "Veritas" gas lamp, imported from England by Equitable Gas Co., decorates a home in Pittsburgh



Equitable's "Veritas" lamp has proven extremely popular with young couples in suburban communities





"Gas-fired Luau Torches" can be erected singly or in clusters on lengths of pipe. The luau (feast) torch, a common sight in Hawaii, is made by the Honolulu Gas Co.

Gas lighting reached its peak in 1914, when some 50 million gas lights were in service in the United States. As electric lighting advanced in following years, however, gas gradually lost its lead as an illuminant.

The modern-day rebirth of outdoor gas lighting has caught the fancy of the entire country. This rebirth may have been caused by the nation's desire to regain the unhurried, gracious living of the good old days. But it is more likely that this renaissance was created by the imagination and planning of such companies as Arkla Air Conditioning Corp. of Shreveport, La., today's leading gas light manufacturer.

The revival of gas lighting is thought to have begun in 1954, when Norman F. Martin, representative for Metalbestos Gas Vent Co., decided to provide economical and continuous all-night lighting for his lawn in San Antonio, Texas. Since he is in the gas industry, Mr. Martin naturally turned to natural gas.

After several months of backyard experimentation, Mr. Martin found that, in order to have the best effect, the gas light should not be brighter than moonlight.

Mr. Martin was overwhelmed by the tremendous interest that his light aroused in San Antonio. Deluged with

inquiries, Mr. Martin and his wife, Coretta, saw the possibility of a gas light revival. Since Mr. Martin was fully occupied with business obligations, Mrs. Martin organized, and became president of, Moonglow Gas Light Co. of San Antonio—and the revival began in earnest.

A. G. A. came into the picture early in 1957, when Mrs. Martin wrote to Managing Director C. S. Stackpole. "We thought you would be interested to know," she wrote, "that the Sharpstown Housing Development in Houston, claimed to be the world's largest housing project, is featuring all-gas homes. One of the prominent gas appliances featured is our 'Moonglow Gas Light' . . ."

In March 1957, Mr. Stackpole mailed literature on the "Moonglow Gas Light" to all gas companies.

The first public speech on the revival of gas lighting is said to have been the one made by Mr. Stackpole later in 1957 at a meeting of the management group of Niagara Mohawk Power Corp. He opened his comments with this statement: "Don't you power men panic, but gas lighting is coming back!"

And it certainly did come back. In the months following, the gas lighting industry grew like a young colt. Today, there are several major manufacturers of gas lighting



Disneyland's "Main Street, U.S.A." has 31 Welsbach "Boulevard" lamps (made by Welsbach Corp.) recently removed from Baltimore.



Humphrey "Opalite" interior gas lamp is made in one of three finishes by General Gas Light Co.



A panoramic view of the Plaza in Old Town Albuquerque, N. M., where gas lights were recently installed to replace electric facilities. Albuquerque officials purchased the lamps from Southern Union Gas Co.



"Moonglow Gas Light" lends a gracious touch to the of an advertising agency president in San Antonio



The Humpty Dumpty restaurant in Old Greenwich, Conn., is as modern as the space age, yet is delightfully quaint and rustic. The restaurant, which uses only gas for fuel, is decorated with 90 modern gas lamps

equipment, and a number of smaller firms. The "new" industry has grown quickly, and the future, apparently, is unlimited.

Eminent in the field is fast-growing Arkla Air Conditioning Corp. And, although Moonglow is credited with the rebirth of gas lighting, Arkla must be credited with its rapid national acceptance.

Arkla, also a manufacturer of gas air conditioning equipment—and a subsidiary of Arkansas Louisiana Gas Co.—came into the gaslight glare in late 1957, when W. R. Stephens, then chairman of Arkla's board of directors, and now president of Arkansas Louisiana Gas Co., offered to replace every electric street light in Little Rock with a gas light. His offer included free service and free fuel supply.

Within 48 hours of his original offer, he had installed two antique model gas street lights in front of Little Rock's city hall. With Christmas only two days away, seasonal traffic log-jammed on the streets approaching the city hall. Public interest in the gas lights was tremendous, and TV, radio, and newspaper reporters had a field day.

Although the city council could not accept Mr. Stephens' offer—there are laws which prohibit utilities from

disrupting preferential rates or services—the public interest started Mr. Stephens thinking seriously about gas lights as a means of building gas system loads. He immediately began selling gas lights manufactured by a small plant in the Southwest. Sales soared, and the plant could not keep up with the demand. Further encouraged by public response to a single newspaper advertisement, Mr. Stephens decided that the only solution was for his company to manufacture its own lights.

The company had sufficient manufacturing space at Arkla's Evansville, Ind., factory, and Arkla began production of the "Cabildo" and "Flair" models in February 1958. The traditionally styled "Heritage" was added to the line a few months later; and, in mid-1958, Arkla contracted with Welsbach Corp. of Philadelphia to distribute nationally the gas lights which were being reclaimed from the streets of several eastern cities.

A smaller gas light, the "Doorman," went into production in the fall of 1958. The "Sentry," the newest model, has just been introduced. A post-mounted companion light to the "Doorman," the "Sentry" is designed to sell for approximately half the price of other existing outdoor gas lighting fixtures. Arkla plans to place three more models

on the market in 1959.

Marketed and distributed under the trade name "Gas-lite," Arkla's gas light line was originally produced on a 100-a-day speculative basis. By mid-1958, production reached 1,200 per day.

During the 11-month production period which ended on Dec. 31, 1958, Arkla manufactured 88,338 "Gaslites." In the 12-month period which ended on Feb. 28, 1959, the company produced more than 100,000 lights. W. G. Wepfer, Arkla's general sales manager, says that the company looks forward to more than double that volume in 1959.

The company has sold "Gaslites" to customers in every state and in many foreign countries, and, along with the other gas light manufacturers, has provided gas utilities with the only 100 per cent load factor gas appliance in the industry. Arkla's parent company in one year has achieved a 10 per cent saturation of its domestic meters by selling more than 25,000 "Gaslites."

Mr. Wepfer says that Arkla hopes to remain in the top position in the gas lighting field through both aggressive sales and promotion and continuing research and development of new models and new applications. Arkla currently has facilities capable of producing more than 50,000 gas lights per month.

Arkla has also developed a number of "Gaslite" accessories. Already introduced are "on-off" attachments, which incorporate a bypass valve-pilot feature. This accessory makes possible instant relighting either at the light itself or at a remote point on the household gas line.

Arkla also has developed a unique automatic control that operates on the photo-cell principle. The control will automatically reduce the input to the "Gaslite" for minimum flame operation when the outside light level rises above a pre-set point. In effect, the control turns the "Gaslite" down during daylight hours and up at night. This feature is particularly desirable in areas where the gas rates are relatively high. Savings in fuel consumption will reportedly run about 50 per cent or more.

Two other unique Arkla developments are the 52 gas lights installed on the 3,100-foot runway of the Benton, Ark., County Airport, believed to be the first field to use such lighting; and the "talking gaslite," a new remote loudspeaker system—developed by the company's research and engineering staff—which consists of two speakers mounted on a "Gaslite" post under the lamp case, and which can easily be wired into any radio, phonograph, hi-fi or loudspeaker system, in order to pipe entertainment from house to yard, patio or pool.

Another major gas lighting manufacturer is Bruest, Inc., of Independence, Kan. This company manufactures the "Gas-glo Lawn Lites," and has been selling primarily directly to gas utilities throughout the United States. Bruest also has a small number of distributors in areas where the local gas companies are not selling gas lights.

Bruest management is especially proud that the city of Independence now claims the title of the "gas light capital of America." This claim is substantiated by the large number of gas lights per meter which are serviced by Union Gas System, the local utility. Independence, which has approximately 4,000 meters, has some 1,000 residential gas lights, or an average of one light for every four homes.

Sales at Bruest have been brisk. The company has

shipped 100 lights per day since May 1958. Richard H. Whitehurst, Bruest general sales manager, believes that the sales potential is unlimited, but says that a better quality of gas mantle must be produced in order for the gas lighting industry to achieve its ultimate potential.

Mr. Whitehurst offers this food for thought: "Our most difficult problem is installation. In each city, there are different code set-ups, and until there is a standard procedure on installing gas lights through the nation, the problem will remain."

Mr. Whitehurst says that Bruest is in favor of using plastic pipe to install the lights. Several gas companies are now running extensive tests for Bruest on this type of installation, in an effort to determine whether or not plastic is superior for this purpose.

Out in Costa Mesa, Calif., there is a police sergeant named Bill Weatherwax. He is an extremely unusual man, and he is probably typical of the young executive heads of the smaller firms in the gas lighting field. A one-time professional baseball player in the St. Louis Cardinal farm system, Sgt. Weatherwax joined the gas lighting bandwagon late in 1957, when he organized and became president of Weatherwax Industries. This company manufactures the "Everglo" gas lamp, a product rapidly becoming known over a wide area.

Like the Martins of the Moonglow firm, Sgt. Weatherwax first became interested in gas lighting when he attempted to build and install a light on his lawn some years ago. He fashioned a copper and glass hood in his garage, and found a pre-formed mantle, made in England, which withstood the rigors of almost any kind of operation.


In response to local demand, Sgt. Weatherwax began building similar lamps for sale. Late in 1957, the "Everglo" went on the market.

The first 200 lamps were built in the Weatherwax home's garage. Now, however, Sgt. Weatherwax and his associates in Weatherwax Industries—including Tom Christiansen, vice-president and sales manager—have a production agreement with Craftsman Copper Co. in Costa Mesa. Weatherwax has already added the "Gay Nineties" model to its line, and Hubert L. Manker, owner and manager of Craftsman, estimates that production of the two models should reach 100 per week within the next few weeks.

Equitable Gas Co. in Pittsburgh entered the gas lighting field late in 1957, when the utility's management was searching for a firm which would manufacture gas lamps according to Equitable's specifications. At that time, the domestic gas lighting field was limited, and Equitable turned to a contact in England—Falk, Stadelmann and Co.—which was glad to supply the lamp (called "Veritas") to specifications. By early 1958, Equitable began to receive small quantities of the "Veritas" gas lamp.

R. L. Conover, general promotion manager, says that Equitable has been selling the lamps to both its Pittsburgh customers and a number of other utilities throughout the country. Mr. Conover says that the only trouble that Equitable has had with the lamp—a trouble which he believes all manufacturers have had—is the burner. "That is why we use the adjustable orifice," he explains. "It has done a tremendous job for us, and, to my knowledge, it

(Continued on page 14)



THE Vancouver STORY

*... an account of the phenomenal consumer acceptance
of natural gas in an area where acceptance was once 'limited and waning'*

By OTTO E. ZWANZIG

General Sales Manager
British Columbia Electric Co., Ltd.
Vancouver, B. C., Canada

On Dec. 31, 1955, there were 1,871 residential gas heating accounts; on Dec. 31, 1958, there were 41,150 such accounts. In the winter of 1956-57, the day send-out (firm) was 251,325 therms; in the winter of 1958-59, it was 620,574 therms.

These are only two chapters of "The Vancouver Story," a history which has been written during the last three years. "The Vancouver Story" is an account of the phenomenal and ever widening consumer acceptance of natural gas in a community where the acceptance of manufactured gas was once limited and waning.

Immediately north of the State of Washington and south of Alaska is

Canada's most westerly province, British Columbia, a territory larger in area than the states of California, Oregon and Washington combined. "The Vancouver Story" deals with the development of natural gas service in only the southwestern part of British Columbia—more specifically, the area around Metropolitan Vancouver—where about half of the province's 1.3 million residents live.

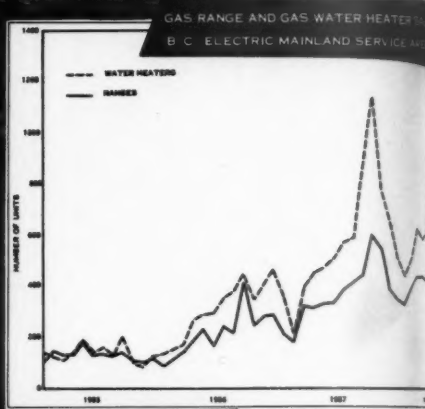
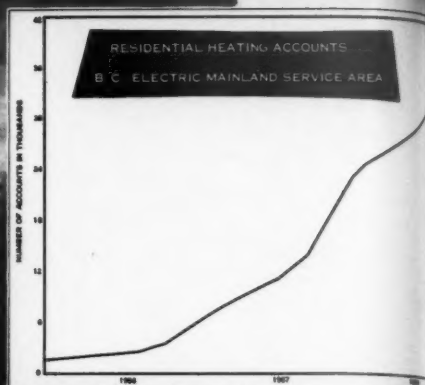
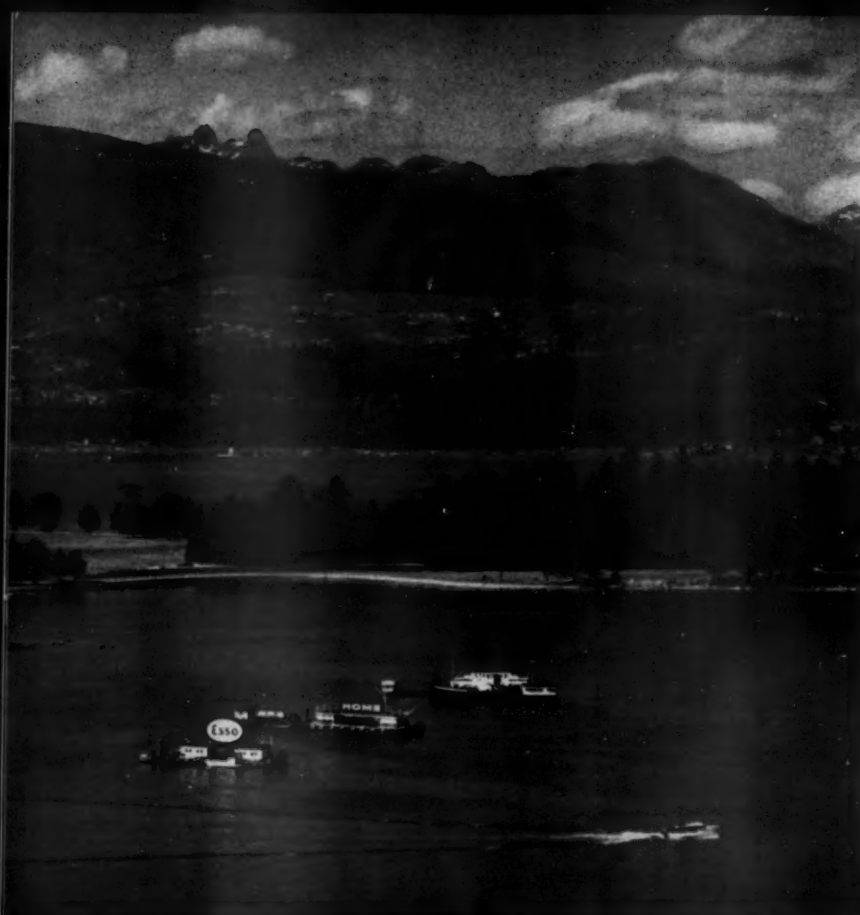
To many non-Canadians, the name "Vancouver" means little. Vancouver is merely that area "tucked away in the western recess of that big neighbor to the north" from where—according to the weatherman—"a cold mass of air is moving south." In reality, Metropolitan Vancouver, a rapidly growing community and Canada's third largest city, is not far behind Seattle in size.

Electricity and gas in Vancouver are supplied by subsidiaries of British Co-

lumbia Power Corp., one of Canada's largest privately owned utility systems. The first natural gas piped to the area crossed the Canadian-United States border at Huntington on Nov. 6, 1956. It was supplied by Pacific Northwest Pipeline Corp. to British Columbia Electric Co., Ltd. Two months later, when conversion was completed, British Columbia Electric began delivering the gas to the waiting Vancouver customers.

The company used this system of supply until November 1957, when Westcoast Transmission Co.'s 600-mile pipeline system was completed. The Westcoast system connects with Pacific Northwest Pipeline's system at the border, thus providing British Columbia Electric with a double-ended pipeline supply.

Customer enthusiasm in Vancouver anticipated the actual arrival of the natural gas. During the middle of



North Shore Mountain view showing tip of the Stanley Mountains in the foreground.

1956, some 4,600 homes installed gas furnaces. During that time, some places were even supplied temporarily by the company with LP-Gas. This gain of residential customers prior to the advent of the gas was remarkable for a company which, at the end of 1955, supplied fuel for domestic heating to only 1,871 customers out of a total of 51,600 manufactured gas customers. More people then were using electricity for heating.

By March 1 of this year, the number of domestic gas heating accounts had grown from 1,871 to 43,900. The total number of customers had increased to 86,000. As a result, British Columbia Electric now serves more customers than does any other gas company in the Pacific Northwest.

More than 17,000 gas heating accounts were added each year in 1957 and 1958, and a similar increase is projected for 1959. About two-thirds of the new accounts in 1957 represented conversions from other fuels; the other third resulted from new construction. During the three-year (1957-59) period, less than 1,000 con-

version burners were installed; most of the new installations were gas-designed forced-air furnaces.

Since the advent of natural gas, much progress has been made in the area of water heater sales. In 1955, electric water heaters out-sold the gas units two to one. Today, the ratio is reversed. During the same period, sales of gas ranges rose from 1,600 units in 1955 to 5,500 units in 1958. Gas ranges now account for more than 40 per cent of the range market. While this growth is modest by present standards in many United States markets, it indicates a remarkable local resurgence of consumer interest in modern automatic gas cookery. Moreover, more gas ranges are now being sold in British Columbia than in the rest of the Pacific Northwest. And these sales are generally of ranges of better than average quality.

Another demand in Vancouver is for gas heating for private outdoor swimming pools. During 1958 alone, the company provided gas heating recommendations for 53 pools. Although they are only a small source of busi-

ness, the pools are nevertheless a profitable source, and, even more important, are a further reflection of the favorable acceptance of natural gas.

Natural gas has been accepted favorably also in the company's non-residential markets.

The commercial heating load developed more slowly than did the residential, because initial rate schedules kept natural gas—compared to other fuels—at a relatively higher premium cost for the commercial applications. Once the commercial market began to develop, however, it followed the same spectacular growth pattern as did the residential market.

By the end of 1958, 810 apartment houses and boarding houses were being heated with natural gas. Almost all of these accounts used the gas also for water heating. During 1958, 590 commercial gas water heating installations were completed, and there was an increase in the use of gas on farms.

Interruptible gas service in Vancouver has been priced to be competitive with Bunker C oil. For larger users, the cost of this gas has been, within

TABLE 1
GROWTH OF UNDERGROUND STORAGE
IN UNITED STATES 1944-1958

Year	Number of Pools	Number of States	Est. Total Reservoir Capacity (Cubic Feet)
1944(a)	50	11	135 Billion
1947(b)	70	11	250 Billion
1949(c)	80	11	497 Billion
1950	125	15	774 Billion
1951	142	15	916 Billion
1952	151	16	1,292 Billion
1953	167	17	1,735 Billion
1954	172	17	1,859 Billion
1955	178	18	2,096 Billion
1956	188	20	3,402 Billion*
1957	199	19	2,603 Billion
1958	205	19	2,718 Billion

* New Storage Reservoir of 1 trillion cubic feet capacity reported in 1956 but not as yet activated. Withdrawn from statistics for years 1957 and 1958.

Sources:

- (a) E. G. Dahlgren—API Eastern District Meeting, Columbus, Ohio
- (b) E. G. Dahlgren—A. G. A. Natural Gas Department, Chicago, Ill.
- (c) Max W. Ball—A. G. A. Natural Gas Department, French Lick, Ind.

\$650 million spent on gas storage

The gas industry's underground storage operations advanced on all fronts during 1958, according to the eighth annual report on underground storage in the United States. The report was prepared by the Subcommittee on Statistics of the Underground Storage Committee. Lyle R. Kirk, chief geologist, The Ohio Fuel Gas Co., is chairman of the subcommittee.

A comparison of 1957 and 1958 totals shows that the number of pools increased from 199 to 205. Active wells increased from 7,969 to 8,237, and the number of compressor stations rose from 130 to 136. Total horsepower was increased from 411,000 to 438,000.

To compare 1957 with 1958 in such areas as "maximum gas in storage" and "gas in storage as of Oct. 31, 1958," it is necessary to adjust the 1957 volumes in order to be consistent. This is because three companies included native gas reserves, thus intermixing estimated volumes with metered volumes.

Volumes in California, Michigan and New Mexico, locations of the three com-

panies, have been reduced by the native gas volumes shown in the 1957 report. This is in deference to the 16 states which do not include native gas in this column. The revised figures show these comparisons: maximum gas in storage increased from 1,380 trillion cubic feet to 1,574 trillion cubic feet, while gas in storage on Oct. 31, 1958, increased from 1,344 trillion cubic feet to 1,539 trillion cubic feet.

Input and output for the year ending Oct. 31, 1958, each showed increases. Maximum day input rose from 623 billion cubic feet to 678 billion cubic feet, while the maximum day output increased from 8.8 billion cubic feet to 9.8 billion cubic feet.

The number of companies reporting storage operations remained at 53, since 1958 ended with no additional companies reporting; however, seven new pools were reported under construction, as compared to eight at the end of 1957. The capacity of new pools was reported as nearly double that of 1957 (35 billion cubic feet in 1957 and 63 billion cubic

feet in 1958).

Again comparing 1957 with 1958, all storage totals showed increases as follows (all volumes in billion cubic feet): native gas in storage reservoirs from 375 to 387; cushion gas from 627 to 670; working gas from 673 to 708.

Total volume of stored gas (excluding native gas) increased from 1,300 billion cubic feet to 1,377 billion cubic feet. The total native gas moved ahead from 1,674 billion cubic feet to 1,764 billion cubic feet.

It was estimated that total capital investment in storage facilities and cushion gas is in excess of \$650 million. States reporting the largest amount of gas in storage during 1958 were Pennsylvania (24 per cent), Ohio (18 per cent), West Virginia (16 per cent), and Michigan (12 per cent). Two states showed exceptional growth. Iowa increased maximum volume in storage from 13 billion cubic feet in 1957 to 31 billion cubic feet in 1958, and Texas spurred from 26 billion cubic feet to 38 billion cubic feet.

TABLE 2
SUMMARY OF DATA ON UNDERGROUND STORAGE 1955-1958

	1955	1956	1957	1958
Number of states	18	20	19	19
Number of companies	44	46	44	53
Number of pools	178	188	199	205
Number of active wells	6,746	7,432	7,969	8,237
Number of compressor stations	124	139	130	136
Total horsepower of compressor stations	347,835	415,840	410,600	437,597
Maximum gas in storage—Mcf	1,150,246,421	1,389,704,931	1,574,273,421	1,558,422,769*
Gas in storage as of 10/31—Mcf	1,136,127,854	1,360,388,918	1,539,008,281	1,541,267,006*
Input to storage for year ending 10/31—Mcf	502,632,586	556,694,885	622,746,587	677,987,498
Output from storage for year ending 10/31—Mcf	352,000,097	491,564,391	458,192,320	496,567,074
Maximum day output for year ending 10/31—Mcf	6,482,950	8,022,717	8,842,519	9,844,668
Ultimate reservoir capacity—Mcf	2,095,814,139	3,402,316,693	2,602,732,208	2,717,604,192
Number of new pools under construction	10	7	8	7
Estimated ultimate capacity of new pools—Mcf	81,712,480	58,669,486	34,929,386	62,719,010
TOTAL NUMBER OF COMPRESSOR STATIONS AVAILABLE FOR UNDERGROUND STORAGE OPERATIONS				
Input only	30	38	28	29
Both operations	81	88	87	95
Output only	13	13	15	12
Total	124	139	130	136

* Stored gas only (excluding native gas).

Eighth annual report shows number of pools increased from 199 to 205, active wells from 7,969 to 8,237 during past year

TABLE 3
BASIC UNDERGROUND STORAGE STATISTICS, BY STATE, 1958
(Mcf—14.65 psi at 60°F)

State	Number of Pools	Number of Active Wells	Number of Compressor Stations	Total HP of Compressor Stations	Maximum Gas in Storage* (Mcf)	Gas in Storage, 10/31/58* (Mcf)	Input to Storage, Year Ending 10/31 (Mcf)	Output from Storage, Year Ending 10/31 (Mcf)	Maximum Day Output, Year Ending 10/31 (Mcf)	Number of New Pools Under Construction	Ultimate Capacity of New Pools (Mcf)
Arkansas	2	17	1	145	3,042,649	3,042,649	357,419	230,346	5,805	—	—
California	4	111	4	21,390	52,910,180	52,323,271	33,816,313	27,130,566	426,653	—	—
Illinois	4	71	4	14,600	37,224,493	36,025,999	11,547,276	5,332,548	480,001	—	—
Indiana	6	203	3	2,900	7,750,275	7,719,202	4,281,615	3,258,312	93,695	—	—
Iowa	2	33	4	6,410	30,754,127	29,779,432	19,334,571	1,832,853	71,869	—	—
Kansas	14	716	5	23,930	60,936,718	60,482,555	30,262,049	24,528,155	327,595	—	—
Kentucky	6	252	2	7,890	17,719,850	17,099,837	7,681,983	8,504,025	228,855	2	2,513,750
Michigan	18	1,084	3	65,480	184,984,068	184,082,382	93,885,973	64,956,649	1,424,629	—	—
Mississippi	2	12	2	2,600	4,373,278	4,323,846	3,787,559	2,246,352	162,055	—	—
Missouri	1	23	1	2,860	7,482,255	7,210,762	3,317,426	678,362	48,264	1	50,275,000
Montana	2	156	3	5,260	22,481,681	21,813,599	5,641,034	3,158,576	46,600	2	7,119,700
New Mexico	4	68	2	2,400	19,176,193	18,770,056	8,721,774	7,255,007	51,991	—	—
New York	13	573	11	8,415	49,974,199	48,516,779	22,120,407	20,754,226	375,710	—	—
Ohio	17	2,111	16	55,632	272,411,212	269,628,003	100,226,537	74,165,844	1,473,284	—	—
Oklahoma	7	76	5	7,350	99,153,262	98,145,869	25,211,787	19,148,105	360,303	—	—
Pennsylvania	58	1,802	42	144,477	382,635,232	380,691,893	165,014,491	114,363,722	2,642,244	1	810,560
Texas	5	74	5	8,990	38,333,244	37,127,163	17,234,936	4,896,995	133,600	1	2,000,000
West Virginia	38	847	21	55,060	251,864,642	249,444,978	120,755,689	92,074,141	1,468,406	—	—
Wyoming	2	8	2	1,808	15,215,211	15,038,731	4,788,659	2,052,290	23,109	—	—
Total	205	8,237	136	437,597	1,558,422,769	1,541,267,006	677,987,498	496,567,074	9,844,668	7	62,719,010

* Stored gas only, excludes native gas.

A.G.A. in Action

Thumbnail sketches of current activities at Association Headquarters and Laboratories

Edgar A. Jahn has been appointed assistant director of A. G. A.'s Utilization Bureau. He has served as assistant utilization engineer for the past 12 years. Mr. Jahn was graduated from Brooklyn Polytechnic Institute in 1935. He holds a degree in mechanical engineering. Prior to joining A. G. A. in 1947, Mr. Jahn worked with L. J. Wing Manufacturing Co., The Brooklyn Union Gas Co., and Sperry Gyroscope Co.

Seward Abbott, utilization engineer at A. G. A.'s Washington Office, was honored with an engraved resolution of commendation during the Southern Gas Association's annual convention in New Orleans. The resolution was presented during SGA's Sales Executives' Conference. Mr. Abbott was cited for the outstanding contribution he has made to the betterment of the gas industry's relations with the federal agencies, and his countless contacts and negotiations which have benefited individual gas companies.

Entry blanks and new rules booklets for the third annual Public Relations Achievement Awards competition have been mailed to member companies. The Public Information Bureau has announced that July 15 is the deadline for entries, and that Aug. 15 is the closing date for submitting contest materials.

The 44-page combined A. G. A. and PAR Annual Report has been mailed to members. The report was designed to record the year's accomplishments as fully as possible, and to give members and subscribers a financial accounting of the funds by which the Association is supported. In the president's introductory message, Robert W. Otto states that "the record set forth is one of which we can be justly proud. The Association over recent years has been forged by the gas industry into an ever more effective instrument of national action. In 1958, it reached new peaks of achievement in nearly every field." Still on hand at A. G. A. Headquarters are a number of copies of the report. These copies will be distributed on a limited basis as requests are received. Requests should be directed to Order Department, A. G. A. Headquarters, 420 Lexington Avenue, New York 17, N. Y.

A revision of *Enough Hot Water—Hot Enough* appears in the May issue of *Air Conditioning, Heating, and Ventilating* magazine. The revision, which also will be released as a reference section to the industry, was prepared by a task force of

the Industrial and Commercial Gas Section's Water Heating and Steam Generation Committee.

Roy Siskin, A. G. A. utilization research engineer, was elected treasurer of the Society for the Advancement of Food Service Industry Research at the group's April 20-22 meeting at Michigan State University. A relatively new technical organization, the society is made up of representatives of industrial organizations interested in advancing research in the food service field.

The Bureau of Statistics, as a result of its participation in the Federal Statistics Users Conference, is currently working on a comprehensive set of long-range recommendations for improvements of government construction statistics.

The Utilization Bureau has mailed a folder describing the new International Gas Vocabulary to member companies. As a result of the accelerated efforts of the Vocabulary Committee of the International Gas Union at a number of meetings, the manuscript of the vocabulary will probably be ready in time for the meeting in early July in Cologne, Germany. The committee is presently checking and discussing the words and terms which will appear in seven languages. The chapters on gas transmission and distribution have already been completed. Emphasis is now being given to the terms used in gas utilization. The United States is represented on the committee by C. George Segeler, director, Utilization Bureau.

A new *Utility Information Portfolio* on industrial and commercial incineration has been completed and mailed to gas company sales executives. The portfolio presents a complete pattern for the initiation of a sales promotion program on commercial and industrial incineration. A complete description of the portfolio will appear in the June issue of the A. G. A. MONTHLY.

A. G. A.'s industrial and commercial advertising program has been augmented by the inclusion of cooperative advertising from manufacturers of industrial gas air conditioning equipment. One cooperative manufacturer has reported that, as a result of this advertising, his sales are increasing by leaps and bounds, and that, by September 1959, his business will have increased 100 per cent over 1958.

\$75,000 gas home boosts centennial



Mrs. America of 1957—Mrs. Cleo Maletis—is directing the Mrs. Oregon contest this year in twin centennial program



This is a busy year for Northwest Natural Gas Co.

Oregon is celebrating the centennial of its statehood, and the company is noting its own 100th anniversary, too—and helping out with the state's observances.

Oregon is preparing a Centennial Exposition to open June 10 in Portland for a run of 100 days. Northwest Natural Gas has pitched in with three projects to help put across the show.

A Centennial Cameo Home of Ideas will be sponsored by the gas utility and the Portland Home Builders Association. This showpiece house, estimated at \$75,000 to \$100,000 in value, will replace the 1959 Portland Home Show.

The L-shaped structure is 168 feet long on one side and 120 feet on the other. It encloses 4,800 square feet of floor space. No family, the architects admit, will want to duplicate the place, but viewers will take away ideas for improving their own living.

The kitchen will be an all-gas creation that embodies the latest in food preparation and storage. Some equipment that will be displayed may not be on the market for years. The kitchen, with laundry, hobby space

and dining area, will measure 24 by 48 feet.

The Oregon Centennial Commission expects from six to eight million people to visit the Exposition this summer, and a high ratio will be exposed to modern gas appliances in the Cameo Home of Ideas.

The second project will be a gas industry exhibit in the Centennial building, coordinated by the Portland-based company. A score of gas appliance makers and distributors and Pacific Northwest Pipe Line Corp. will join the utility in filling 6,000 square feet of the 11-acre structure. It will dominate the 65-acre Exposition grounds.

The third undertaking will be an outdoor decorative feature, a "fire sculpture" that will rise above most other Exposition structures. A single arch, shaped of laminated wood, a fast-growing product of the Northwest, will soar above a modernistic reflection pool.

From this arch, a complementary arched beam will be suspended, thrusting above it toward the sky; and from the tip of this upthrust curving beam will spout a constant natural gas flame, which will leap to a height of 15 to

20 feet at regular intervals.

At the 21st Mrs. America contest this June in Florida, the state's homemaker queen will be designated Mrs. Oregon Centennial, by permission of the Mrs. America directors. Northern Natural Gas has assisted in conducting a state-wide contest, in cooperation with RCA Whirlpool.

Mrs. America of 1957—Mrs. Cleo Maletis of Portland—was director of the Oregon contest.

Northwest Natural's major promotional effort this year is a Cameo Home program featuring new all-gas residences. To qualify, a home builder must install gas heating, water heating and cooking equipment, and display a gas refrigerator, clothes dryer and incinerator.

In return, the company is backing the builder with specific advertising in newspapers and on TV and radio for his week end opening and subsequent showings. Throughout the year, the Cameo Home theme is being impressed on the service area by means of 11 full-page newspaper advertisements, TV and radio spot announcements and a 50 per cent outdoor posting of billboards.

Again, Mrs. Maletis is being em-

played as hostess at the openings. Her photo appears in the advertisements.

A gas yard lamp is supplied free to each participating builder. The lamp will stand in front of the home as a hallmark of its all-gas qualities. Nearly a score of home builders have contracted thus far for showings, and 10 have actually had Cameo Home showings up to this point.

Some 30 homes may be presented to the public with this backing during 1959. This would make the Cameo Home program by far the largest in many years in Oregon for a service or supplier company in the home construction field.

The first Cameo home was erected in Marigold Terrace, where 25 gas lights in front of nearly that many new houses provide illumination for the street. This is the first community gas lighting for Portland in 30 years.

The utility's enthusiastic joining with home builders was prompted by the rising acceptance of natural gas for new houses in 1958, the second full year in which this fuel was avail-

able in Oregon.

Gas heating was specified for 64 per cent of all new homes for which building permits were issued in 1958 on sites within reach of gas mains and new extensions. The total of all permits was 3,689. In the early months of this year, the ratio of gas heating climbed to 70 per cent of new homes in the Portland metropolitan distribution area.

In three years, Northwest Natural Gas records show an increase of more than 85 per cent in numbers of single family dwellings heated with gas, from 22,046 to a new high of 42,440.

To explain its own centennial, the company dates its beginnings to 1859, a time when covered wagons were still deepening the ruts of the Oregon Trail. Less than six weeks before statehood was proclaimed Feb. 14, the last territorial assembly granted two pioneer merchants a perpetual franchise to operate a gas system in Portland.

The population then was 2,874, and, when the first tiny plant began processing gas from Vancouver Island

coal, it served a mere 49 customers—all for lighting. Today, there are more than 94,000 customers served by nearly 3,000 miles of mains located in 11 counties of Oregon and Washington.

As California oil became available, the Portland utility began to forsake coal in 1906. By-products from oil-gas manufacture were developed to a point where, in the early 1950's, they were accounting for as much as one-third of gross revenues.

Arrival of natural gas, first from New Mexico and Wyoming, and 15 months later from Canada, meant a virtual rebirth of the business, from a change of name from the old Portland Gas and Coke Co. to a new emphasis on space heating sales and interruptible gas sales to industries.

This year industries probably will use 200 million therms, more than double all residential and commercial sales. Revenues from all gas sales are likely to exceed \$19 million, compared to little more than \$10 million three years ago.

Gas light sales

(Continued from page 6)

the only adjustable orifice on the market."

A newcomer to the gas lighting industry is Valley Manufacturing Co. of Valley, Neb. This firm is manufacturing "Gas Torchlights," which, the firm believes, are a new and unique lighting development.

The "Torchlights" are designed to be installed singly or in clusters. They do not require mantles, and they burn with a bright yellow flame. Two designs are currently available—the "Classic," a modern adaptation of an antique lamp, and the "Luau," designed in the traditional image of the Hawaiian feast torch. Company officials report that initial response to the "Torchlights" indicates that these lights will have wide use in residential and commercial applications.

Valley is a fabricator of steel products for national distribution. Its lines include steel pipe for the petroleum and gas industries, a unique system of automatic irrigation equipment, equipment for the paper conversion market, and a series of products for the farm field.

In our 50th state, the Honolulu Gas Co. is merchandising its "Gas-Fired Luau Torches, by Gasco." The dancing flames of the luau (feast) torch are already a common sight in Hawaii. Created and perfected by engineers of Honolulu Gas, the torch is the latest development in decorative and festive Polynesian torchlights.

"Gasco" torches are made in the traditional image of Hawaii's luau torches, and are erected singly or in clusters on lengths of pipe connected to the regular gas supply. The Honolulu utility promotes the torch throughout Ha-

waii and in other Western states as "an entirely new idea of lighting effects with gas . . . a distinctive, glamorous atmosphere for homes and commercial establishments, parks and scenic drives . . . a new conception of relaxed pleasure in outdoor living—with gas."

A luau torch, named the "Statehood Torch," recently gained national prominence by burning continuously on a Hawaiian hilltop until statehood was voted for the Islands.

In Kalamazoo, Mich., they are singing a new song these days. Instead of the "gal in Kalamazoo," heroine of that old tune, residents are lauding the gas light manufacturer of Kalamazoo—General Gas Light Co.—which is currently bringing national prominence to that Michigan city.

General Gas Light has had considerable success with its products. Now being manufactured is an interior model, called the Humphrey "Opalite," and two exterior lamps, the post and bracket types. The "Opalite," which was recently restyled, is offered with metal trim in a choice of three anodized aluminum finishes—copper, brass, or polished aluminum. The globe is made of heat-resistant glass, and is half frosted for better illumination. The mantle is the new "Beret" type, which withstands jolts and bumps, and which is particularly designed for travel trailers.

Both exterior lamps use standard Humphrey mantles with bright lighting abilities. The exterior models are made of steel, are specially coated against corrosion, and are enameled. There is a "deep-twisted" spiral effect of a steel post on the yard lamp. The lamps are lit by removing only a small plug on the access door at the top of the fixture. The same door opens to give access to the mantle.

(Continued on page 22)

Facts and Figures

Prepared by A. G. A. Bureau of Statistics

Total operating revenues of the gas utility and pipeline industry attained a new high during the calendar year of 1958. Operating revenues of \$7,142,000,000 increased 11.4 per cent in 1958 over the all-time high recorded in 1957. Total operating expenses increased 11.6 per cent in 1958 to a total of \$4,842,000,000. Net income of \$718 million was 11 per cent higher than the 1957 total. Total taxes of \$879 million, representing 12.3 per cent of total operating revenues, rose 10.8 per cent over the taxes paid in 1957.

Housing starts during March 1959 hit a record for that month. Public and private starts of 120,000 units were 47.4 per cent higher than the 81,400 starts recorded in March 1958. Seasonally adjusted private housing starts of 1,390,000 units in March 1959 proved to be the highest for any March since 1950. The March 1959 figure was 51.4 per cent higher than the 918,000 starts in the comparable month of 1958.

The effect of continued increases in home building is shown in the increase in shipments of gas ranges, gas-fired central heating units, and automatic gas water heating equipment. Shipments of these major appliances were up during March 1959 by 16.1 per cent, 25 per cent, and 20.6 per cent, respectively, over March 1958. The most recent figures available for gas dryers show shipments for February 1959 75 per cent higher than those for February 1958.

Total sales of the gas utility and pipeline industry to ultimate consumers during February 1959 amounted to 9,373,000,000 therms, an increase of 7.1 per cent over the total of 8,749,000,000 therms sold in February 1958. The increase in sales over February

(Continued on page 28)

SALES OF GAS AND ELECTRIC RESIDENTIAL APPLIANCES DURING MARCH 1959 (WITH PER CENT CHANGES FROM THE CORRESPONDING PERIOD OF THE PRIOR YEAR)

	March		February		First Two Months of 1959	
	Units	Per Cent Change	Units	Per Cent Change	Units	Per Cent Change
RANGES (including built-ins)						
Gas	173,400	+16.1	155,600	+15.7	304,400	+15.9
Electric	n.a.	n.a.	134,600	+23.8	255,400	+17.3
WATER HEATERS						
Gas	267,300	+20.6	242,400	+12.1	508,600	+12.6
Electric	n.a.	n.a.	75,500	+30.2	138,300	+15.5
GAS HEATING—Total	78,600	+25.0	76,200	+34.2	152,100	+29.4
Furnaces	65,500	+28.2	64,700	+46.4	128,100	+39.4
Boilers	7,600	+40.7	5,800	+13.7	11,400	+6.5
Conversion Burners	5,500	-14.1	5,700	-24.0	12,600	-15.4
OIL-FIRED BURNER INSTALLATIONS	38,831	+18.7	35,691	-0.3	79,708	-2.6
DRYERS						
Gas	n.a.	n.a.	36,852	+75.0	76,479	+48.9
Electric	n.a.	n.a.	69,422	+18.4	148,015	+14.6

Source: Gas Appliance Manufacturer's Association, National Electrical Manufacturer's Association, "Fuel Oil and Oil Heat," and American Home Laundry Manufacturer's Association.

GAS SALES TO ULTIMATE CONSUMERS BY UTILITIES AND PIPELINES DURING FEBRUARY (MILLIONS OF THERMS)

	1959	1958	Per Cent Change
Month of February			
All types of Gas	9,372.5	8,749.3	+7.1
Natural Gas	9,042.0	8,409.4	+7.5
Other Gases	330.5	339.9	-2.8
Twelve Months Ended Feb. 28			
All types of Gas	81,398.0	78,112.9	+4.2
Natural Gas	78,931.0	75,752.6	+4.2
Other Gases	2,467.0	2,360.3	+4.5
February Index of Monthly Utility Gas Sales (1947-49 = 100)	267.8	250.0	+7.1

PERTINENT BUSINESS INDICATORS, FEBRUARY (WITH PER CENT CHANGES FROM CORRESPONDING PERIOD OF THE PRIOR YEAR)

	February			January		
	1959	1958	Per Cent Change	1959	1958	Per Cent Change
Industrial activity (1947-49 = 100)	144	130	+10.8	143	133	+7.5
Consumer prices (1947-49 = 100)	123.7	122.5	+1.0	123.8	122.3	+1.2
Housing starts, Non-farm (thousands)	89.0	66.1	+34.6	86.0	67.9	+26.7
New private construction expenditures (\$ million)	2,500	2,270	+10.1	2,618	2,408	+8.7
Construction costs (1947-49 = 100)	172.5	164.3	+5.0	171.9	164.2	+4.7

Con Ed gas mains 'never leak'

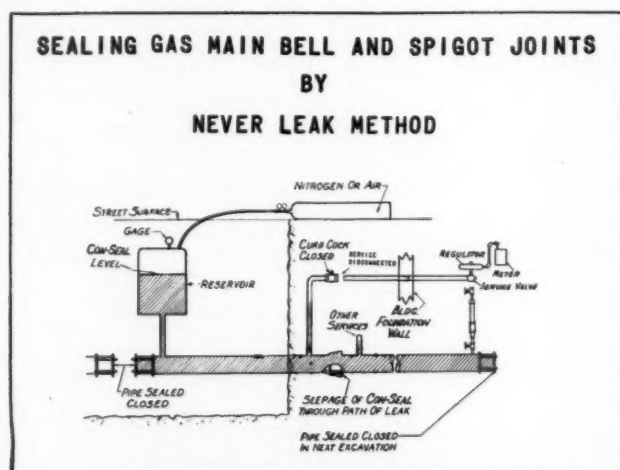


Fig. 1: A schematic view of the "never leak" method for sealing mains



Fig. 2: A 2,000-gallon tank truck for filling and draining gas mains

By C. P. XENIS

*Consolidated Edison Co.
of New York, Inc.
New York, N. Y.*

The practice of internal sealing of gas mains by the "never leak" method has been used extensively since 1957 in the gas distribution system of Consolidated Edison Co. of New York, Inc. Most of this activity has been in Westchester County, and the performance to date—including economics and other considerations—has been gratifying.

The selection of the type of liquid used in the operation was the result of extensive investigation, experimentation and improvements after trial. This method must perform the following functions:

1. The liquid must fill the interstices in the bell and spigot joints. After drying or curing, it must leave a permanent filler which seals the paths of gas leakage.
2. It must accomplish the sealing operation, even though the jute in the joint is partially, or completely, deteriorated due to the drying effect of natural gas. The sealing operation must be effective, even where the jute is completely absent because of extensive prior deterioration. It must work on cement-filled joints where there is little or no jute.
3. The liquid, upon drying or curing, must leave a thickness of a rubber-like resilient material, chemically and physically unaffected by gas, its components,

(Presented on April 6 at annual meeting of the A. G. A. Operating Section Distribution Conference in Cincinnati, Ohio.)

odorizer, etc.

The procedure used required considerable study and development. In its optimum form described in this report, it is effective and practical. It requires careful follow-up of every detail, and the exercise of care and ingenuity by the foreman in charge.

Fig. 1 is a schematic description of the method. A convenient length of cast iron main with bell and spigot type joints is isolated from the rest of the system. All customer services are shut off, and the main is filled with the sealing liquid.

The liquid is introduced into the main with proper venting procedure in a way which assures that no air is trapped in any part of the main and, therefore, that it is completely filled with liquid. The liquid pressure is raised to a maximum of 65 pounds-per-square-inch gauge for mains up to eight inches in diameter. Any small pockets of air trapped in the upper portion of the annular space between the bell and spigot will be compressed to the same pressure as the liquid and at that pressure the air is driven out of the joint, thus resulting in complete filling of the pipe and space adjacent to the joints.

The liquid pressure of 65 psi is maintained for at least one hour and 30 minutes. The liquid is forced into the passages of gas leakage through the joint, then partially penetrates the jute that may be present in the joint, and coats the critical surfaces. Since the liquid is a dispersion containing approximately 40 per cent solids, a "filtering" action takes place under pressure, permitting the water and lighter components of the liquid to penetrate deeper into the jute and interstices of the joint, but "filtering out" the solid rubber-like particles on the critical surfaces of the joint which under operating conditions are exposed to the gas in the main.

When dry, these rubber-like solids form an integral elastic seal. This elastic seal has been found to be chemically free from any attack by the gas, any of its components, or the odorizer. In treating lengths of mains of 1,000 or more feet, active leaks are sealed, and progressive deterioration of jute in all joints is arrested.

This procedure involves an outage to the customers connected to the main being treated, and it is completed in one day. Customers usually are cooperative in this situation, as are the authorities



Fig. 3: A 300-gallon tank used to pressurize main after it is filled

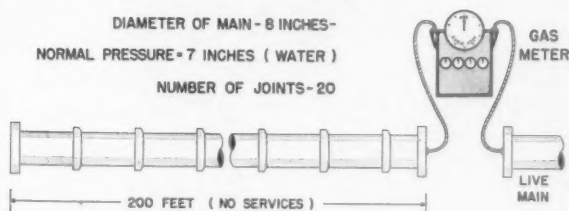
NEVER LEAK METHOD-PERMANENCY TEST

49TH AVE. & 27TH ST. - LONG ISLAND CITY

DIAMETER OF MAIN - 8 INCHES-

NORMAL PRESSURE - 7 INCHES (WATER)

NUMBER OF JOINTS - 20



MAIN TREATED - MAY 9, 1957

GAS LEAKAGE TEST - BEFORE TREATMENT - 24 CU FT/HR

- • • - AFTER TREATMENT - ZERO
- • • - SEPT. 18, 1958 - NO LEAKAGE (16 MONTHS)
- • • - FEB. 3, 1959 - NO LEAKAGE (21 MONTHS)

Fig. 4: Effectiveness of "never leak" method is shown in permanency test

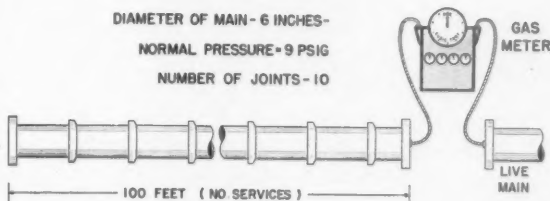
NEVER LEAK METHOD-PERMANENCY TEST

LAKE STREET - TOWN OF HARRISON

DIAMETER OF MAIN - 6 INCHES-

NORMAL PRESSURE - 9 PSIG

NUMBER OF JOINTS - 10



MAIN TREATED - JUNE 9, 1958

GAS LEAKAGE TEST - BEFORE TREATMENT - 1.6 CU FT/HR AT 20" PRESSURE

- • • - AFTER TREATMENT - ZERO AT 20" W.C. PRESSURE (DRYING AND CURING PERIOD AT 20" W.C. PRESSURE FROM 6/9/58 TO 9/8/58)
- • • - SEPT. 8, 1958 - ZERO AT 9 PSIG
- • • - FEB. 2, 1959 - ZERO AT 9 PSIG

Fig. 5: Here, Con Ed also shows good results obtained from this method

who issue the permits. This is because very little traffic interference is involved, as compared to the conventional leak clamping which involves a large number of consecutive excavations.

To shut off services, you must disconnect and cap at the customer's premises, close valves at the curb, or, as usually practiced in Westchester, cut and cap each service at the grass strip adjacent to the curb.

After the services are closed, the section to be treated is pressure tested and the gas leakage measured. This provides us with an accurate record as to the amount of gas lost through the leaks, and enables us to evaluate the economics involved in saving this gas which, by the way, more than pays for the cost of sealing. At the completion of the sealing operation, and before restoring service to the customers, another measurement of gas leakage is made. This is a good check on the success of the sealing operation.

Because the main must be completely filled with the sealing liquid, our equipment incorporates visual and pressure type indicators to assure us about the filling. When the pipe has been filled with liquid from the 2,000-gallon tank, it is pressurized by connecting it to a small auxiliary tank which provides a visual indication of further flow of liquid into the line. By observing indications from pressure gauges and liquid flow gauges, we can tell a lot about what is happening. Loss of liquid pressure can be caused by one of two things:

1. Any small pockets of air at joints are compressed to a pressure equal to the liquid pressure (maximum of 65 pounds), and are gradually driven out of the joints. This leaves gaps which must be filled by the addition of liquid in the main.

2. Some liquid is lost by penetration of the joints until the filtration process has advanced far enough to accomplish a seal which will prevent further loss of liquid.

The point is finally reached when liquid pressure remains constant. This is an excellent indication that the pipe is completely filled with liquid. When this stage is reached, the further addition of a small quantity of liquid will cause a sudden increase in pressure.

It has been found by experience that leaky threads on service connections to the main (on threaded plugs on the main) are effectively sealed by this same method. Apparently, the "filtering" of

the solids is also effectively accomplished in the case of threaded joints. A two-inch steel main assembled with threaded joints which were leaking has been successfully sealed by this method. However, holes in service pipes, cracked mains, etc., are not effectively sealed by this method. They are discovered during the filling operation, and must be repaired before completing the sealing operation.

While this sealing method may appear to be relatively simple, it should be realized that it requires effective supervision, and attention to details on the part of the man in charge of the operation.

It would involve a very lengthy discussion to incorporate all operating details and the handling of the various operating problems which may be experienced during the operation. It may suffice to say that a competent foreman is needed on the job. As experience is gained, all problems encountered during the operation are handled successfully, as has been demonstrated in our area.

A 2,000-gallon tank truck (see Fig. 2) is used to transport the sealing liquid. The truck is equipped with a Moyno pump for filling and draining the gas main. A supplementary 300-gallon tank in a separate truck (Fig. 3) is then connected to the main to pressurize the liquid. This tank is equipped with a glass gauge in order to observe flow of small amounts of fluid into the gas main. The pressure is applied and maintained by the use of cylinders of CO₂ gas.

On the gas system of Consolidated Edison, it has not been found necessary to clean any of the gas mains before the application of the liquid. It has been found, however, that as the liquid is drained, a considerable amount of dried gum or other debris will come out with the liquid. By the use of a filter in the hose connection, all the liquid is restored to usable condition.

The results of our work on 143,307 feet of main successfully sealed by this method are shown in Table A. This represents 14,000 joints sealed by this method. The performance is indicated in Tables B and C. Typical jobs on both low and medium pressure mains are also illustrated in Tables B and C. It should be realized that when a medium pressure main is treated by this method, we cannot immediately restore medium pressure gas. For some six to eight weeks, the pressure in the area is reduced to approximately 20 inches of water pressure.

(Continued on page 28)

SUMMARY OF GAS MAINS TREATED BY NEVER-LEAK METHOD

Pipe I.D. Inches	Total No. of Feet Treated
2	720*
3	5,881
4	77,991
6	45,755
8	7,527
10	390
12	4,933
16	110
Grand total	143,307

* Steel and wrought iron.

Table A

TYPICAL LOW PRESSURE CAST IRON GAS MAINS TREATED BY NEVER-LEAK METHOD

Low Pressure—4-8 Inches Water Column

Pipe I.D. Inches	Length of Main Treated—Feet	Leakage—Cubic Feet Per Hour	
		Before	After
4	849	15	0
4	1,290	39	0
4	1,370	72	0
6	600	19	0
6	1,200	69	0
6	1,410	63	0
8	620	50	0

A section of two-inch steel pipe with threaded joints and services was treated by the never-leak method. The leakage through the threads was stopped.

Table B

TYPICAL MEDIUM PRESSURE CAST IRON GAS MAINS TREATED BY NEVER-LEAK METHOD

Pipe I.D. Inches	Length of Main Treated—Feet	Leakage—Cubic Feet Per Hour	
		Before	After
4	842	68	0
4	1,472	61	0
4	1,689	67	0
6	813	73	0
6	1,410	63	0
6	1,150	236	0
4 & 6	4,880	390	0

Medium pressure—2-15 psi.

Table C

SUMMARY OF INFRA-RED DETECTION PROGRAM TO DETERMINE LEAKAGE OF SECTIONS TREATED BY NEVER-LEAK METHOD

155 sections of gas main treated—143,307 ft.	
120 sections—no leaks reported	
35 sections—leaks reported	
Investigation of the 35 sections showed 30 leaks	
No. of Leaks	Description of Leaks
3*	joint leaking.
9	packing leaking on main valves and leaking curb valves.
2	leaking 2-inch services.
10	no indication of natural gas.
6	still under investigation.

* The three joints found leaking were all in the same section treated.

Table D

Gas-heated homes up 6 per cent

At the end of 1958, there were 19,003,000 gas househeating customers in the United States, a rise from the total of 17,924,000 on Dec. 31, 1957. This gain of 1,079,000, equivalent to a 6 per cent increase in gas-heated homes, raises the proportion of househeating customers from 62.6 per cent to 64.9 per cent of all residential gas consumers.

These data do not reflect either homes heated by liquefied petroleum gas (bottled gas) beyond the mains of utility gas companies or dwelling units in apartment houses and other multiple structures receiving their heat from one central gas furnace.

It is anticipated that four million residential heating customers will be added during the next three heating seasons. Of this increase, 2.3 million, or 59 per cent, will be in newly built homes, and 1.7 million will represent conversions from other heating fuels. These additions are in the number of dwelling units, rather than in pieces of equipment. Many gas-heated homes which utilize either floor and wall furnaces or space heaters employ more than one piece of equipment.

As in past years, the East North Central states expect to account for the largest portion of additional househeating customers again in the next three heating seasons. Additions in this region will total 1,139,000, or 26 per cent of all incremental heating customers.

The rapidly growing Pacific region is second with an expected gain of 628,000 installations, 91 per cent of

ESTIMATED UNITED STATES GAS HOUSEHEATING CUSTOMERS, END OF 1958, BY STATE

(Thousands of Customers)

	Existing Residential Customers Nov. 30, 1958		Estimated Number of Gas Installations During December 1958	Estimated Gas Househeating Customers Dec. 31, 1958
	Total	Househeating		
United States	29,216	18,862	141	19,003
New England	1,533	313	4	317
Connecticut	352	61	1	62
Maine	34	6	a	6
Massachusetts	945	199	2	201
New Hampshire	36	6	a	6
Rhode Island	148	41	1	42
Vermont	18	a	a	a
Middle Atlantic	6,976	2,339	19	2,358
New Jersey	1,324	295	4	299
New York	3,653	962	9	971
Pennsylvania	1,999	1,082	6	1,088
East North Central	6,526	3,767	46	3,813
Illinois	2,051	830	15	845
Indiana	685	258	2	260
Michigan	1,351	829	12	841
Ohio	1,950	1,657	14	1,671
Wisconsin	489	193	3	196
West North Central	2,300	1,791	15	1,806
Iowa	381	288	3	291
Kansas	457	438	4	442
Minnesota	421	312	3	315
Missouri	714	483	4	487
Nebraska	245	210	1	211
North Dakota	32	18	a	18
South Dakota	50	42	a	42
South Atlantic	2,194	1,359	11	1,370
Delaware	57	15	a	15
District of Columbia	161	69	1	70
Florida	215	104	1	105
Georgia	474	405	2	407
Maryland	497	232	2	234
North Carolina	87	44	1	45
South Carolina	68	33	1	34
Virginia	316	163	2	165
West Virginia	319	294	1	295
East South Central	1,263	1,081	6	1,087
Alabama	404	321	2	323
Kentucky	367	297	2	299
Mississippi	231	228	1	229
Tennessee	261	235	1	236
West South Central	3,298	3,273	16	3,289
Arkansas	246	244	2	246
Louisiana	603	596	3	599
Oklahoma	515	515	3	518
Texas	1,934	1,918	8	1,926
Mountain	1,045	980	6	986
Arizona	251	243	1	244
Colorado	323	311	2	313
Idaho	10	10	a	10
Montana	100	95	1	96
Nevada	21	9	a	9
New Mexico	142	135	1	136
Utah	144	128	1	129
Wyoming	54	49	a	49
Pacific	4,081	3,959	18	3,977
California	3,922	3,867	14	3,881
Oregon	88	50	2	52
Washington	71	42	2	44

a. Less than 500 customers.

ANTICIPATED ADDITIONAL GAS HOUSEHEATING CUSTOMERS,* 1959-1962, BY STATE

(Thousands of Customers)

	1959-60 Heating Season			1960-61 Heating Season			1961-62 Heating Season			Proportion of Industry Reporting
	Total	New Dwelling Units	Existing Dwelling Units	Total	New Dwelling Units	Existing Dwelling Units	Total	New Dwelling Units	Existing Dwelling Units	
United States	1,286	760	526	1,375	779	596	1,317	798	519	94
New England	43	11	32	45	12	33	47	13	34	96
Connecticut	12	4	8	13	4	9	14	5	9	100
Maine	b	b	b	1	b	1	1	b	1	100
Massachusetts	24	6	18	24	7	17	25	7	18	94
New Hampshire	1	b	1	1	b	1	1	b	1	96
Rhode Island	6	1	5	6	1	5	6	1	5	97
Vermont	b	b	b	b	b	b	b	b	b	76
Middle Atlantic	176	85	91	179	88	91	171	85	86	97
New Jersey	37	25	12	37	25	12	37	25	12	100
New York	87	33	54	89	34	55	82	30	52	99
Pennsylvania	52	27	25	53	29	24	52	30	22	92
East North Central	379	144	235	420	142	278	340	149	191	97
Illinois	135	31	104	161	14	147	102	23	79	99
Indiana	15	6	9	32	13	19	22	9	13	92
Michigan	105	34	71	95	35	60	92	40	52	99
Ohio	88	61	27	86	65	21	84	63	21	97
Wisconsin	36	12	24	46	15	31	40	14	26	95
West North Central	109	54	55	116	54	62	115	53	62	91
Iowa	28	9	19	34	10	24	34	9	25	96
Kansas	9	9	b	8	8	b	8	8	b	82
Minnesota	24	10	14	28	11	17	29	11	18	98
Missouri	35	17	18	33	16	17	32	16	16	92
Nebraska	9	6	3	9	6	3	8	6	2	90
North Dakota	1	1	b	1	1	b	1	1	b	100
South Dakota	3	2	1	3	2	1	3	2	1	100
South Atlantic	123	72	51	145	77	68	163	80	83	86
Delaware	2	1	1	2	1	1	2	1	1	93
District of Columbia	2	1	1	2	1	1	2	1	1	100
Florida	37	12	25	50	14	36	61	15	46	34
Georgia	23	19	4	24	20	4	23	20	3	85
Maryland	22	17	5	22	17	5	23	18	5	96
North Carolina	13	6	7	20	8	12	26	8	18	60
South Carolina	5	2	3	6	2	4	7	2	5	77
Virginia	13	10	3	13	10	3	13	11	2	92
West Virginia	6	4	2	6	4	2	6	4	2	92
East South Central	52	43	9	52	43	9	51	42	9	84
Alabama	18	16	2	18	16	2	18	16	2	78
Kentucky	16	13	3	16	13	3	16	13	3	89
Mississippi	9	8	1	10	9	1	10	9	1	87
Tennessee	9	6	3	8	5	3	7	4	3	83
West South Central	125	114	11	130	118	12	133	123	10	88
Arkansas	10	8	2	9	7	2	8	7	1	86
Louisiana	24	20	4	25	21	4	25	22	3	81
Oklahoma	16	16	b	16	16	0	16	16	0	76
Texas	75	70	5	80	74	6	84	78	6	93
Mountain	74	50	24	80	56	24	82	58	24	89
Arizona	19	16	3	21	18	3	22	19	3	93
Colorado	15	14	1	18	17	1	19	18	1	82
Idaho	13	1	12	10	1	9	9	1	8	100
Montana	3	2	1	6	2	4	8	2	6	97
Nevada	b	b	b	b	b	b	b	b	b	96
New Mexico	12	10	2	13	11	2	13	11	2	82
Utah	10	6	4	10	6	4	9	6	3	100
Wyoming	2	1	1	2	1	1	2	1	1	84
Pacific	205	187	18	208	189	19	215	195	20	99
California	180	177	3	183	179	4	189	185	4	99
Oregon	8	3	5	8	3	5	9	3	6	98
Washington	17	7	10	17	7	10	17	7	10	98

a. Reflects expectations of entire gas industry.
b. Less than 500 customers.

which will go into new homes.

Ranking third is the Middle Atlantic area, which anticipates adding

526,000 units within the coming three-year period.

In fourth position—which was pre-

viously held by the West South Central states—is the South Atlantic region. The upward move in this area

is due largely to the establishment in Florida of a new market for heating equipment. Florida will start receiving natural gas during 1959.

Fifty-three utilities reported being affected by either complete or partial restrictions on the installation of new heating equipment as of Nov. 30, 1958. These 53 companies serve 5.3 million households and represent 18.6 per cent of total utility customers. A year ago, 55 gas companies serving 18.8 per cent of all residential customers reported such restrictions. Of the 53 utilities having restrictions, 31—with 3.5 million residential customers—indicated that they had, as of the end of November 1958, 476,000 applications on file for gas heating permits.

TOTAL RESIDENTIAL CUSTOMERS OF COMPANIES HAVING GAS HEATING RESTRICTIONS 1950-58*

Year	Residential Customers (millions)	Proportion of Industry Covered
1950	9.5	90%
1951	11.2	92
1952	10.2	93
1953	9.1	92
1955	6.7	92
1956	5.3	94
1957	5.4	95
1958	5.3	94

* Data for 1954 not available.

This study was based on data submitted by individual utilities. The data indicated expected new installations, the existence or absence of restrictions, and the number of existing residential users and househeating customers. Industry totals—which are

based upon the reports received from these companies, as well as upon estimates for non-responding companies—represent the entire industry. Reports were received from 326 companies serving 27.5 million residential gas users throughout the nation as of Nov. 30, 1958. These figures are equivalent to 94 per cent of the industry.

Manufacturers of gas heating equipment have indicated the value of this survey in the past in helping them to determine both the magnitude and location of the market for their products and profitable production scheduling and marketing policies. Any manufacturers or utilities interested in more detailed data of a similar nature may contact the Bureau of Statistics at A. G. A. Headquarters.

At his home in Shaker Heights, Ohio, Russell V. "Chiefie" Myers is a professional "do-it-himselfer." Since he moved into his two-story center hall colonial, he has literally "torn the house apart and rebuilt it."

On the job at the A. G. A. Laboratories in Cleveland, Chiefie, assistant director of the Cleveland Laboratories, uses his do-it-himself talents to direct the gas industry's national gas appliance testing and inspection program—the biggest operation of the Labs.

Chiefie, as he has been affectionately known throughout the industry for some 20 years, is responsible for the departments run by the chief testing engineer, the chief inspection engineer, and the building and maintenance superintendent.

Few people know how Chiefie came to be called Chiefie. He tells this story:

Quite a few years ago, an amateur cartoonist employed at the Laboratories drew caricatures of his fellow employees. He posted these drawings on the bulletin board "when no one was looking." Chiefie still remembers the day he saw a perfect caricature of himself dressed as an Indian Chief posted on the board. The drawing was entitled "Chief Sitting Bull."

"The full title caught on for a while," he recalls, "but they soon shortened the name to Chiefie. It has stuck with me ever since. I suppose

there are many people who do not know that my real name is Russell."

Chiefie, a native Ohioan, attended high school near Mansfield. He excelled in most sports, but his best effort was as a baseball pitcher. He was so good that each of a number of large universities offered him an athletic scholarship.

"Problem was," he recalls, "that I had my heart set on Carnegie Tech in Pittsburgh—and they didn't have a baseball team in those days."

Chiefie did, however, put his pitching talents to work while in college. He became a semi-pro pitcher. Seldom did a week end pass that he wasn't on the mound for a local team, earning money for tuition. He studied physics and received a Bachelor of Science degree in engineering.

Chiefie joined the Laboratories in 1937. Before that, he had spent four years with Westinghouse Electric Corp. in a variety of positions. At the Labs, he was first assigned to the testing department's central house. He subsequently became supervisor of the central house. In 1939, he was transferred to the Pacific Coast Laboratory to supervise testing on the floor.

Chiefie returned to Cleveland in 1941 in a supervisory capacity in the testing department. That year, the Labs went into war production to design and build the A-11 oxygen regulator for use in airplanes.

In 1944, Chiefie moved back to

Meet your Association staff



Russell V. Myers

the Pacific Coast Laboratory to set up test equipment for use in testing a helium retention outfit which was developed by the Labs for Army Ordnance. He returned to Cleveland in 1944 to resume supervising the building and testing of oxygen regulators. He was appointed chief testing engineer in 1945, and became assistant director in 1955.

Mrs. Myers says that, as a do-it-himselfer at home, Chiefie's biggest single project was removing his entire heating system and installing new baseboard radiation "which is gas, of course."

Gas light sales

(Continued from page 14)

General Gas Light says that the travel trailer market has been a good outlet for interior gas lamps. Other good markets are places where LP-Gas is readily available. Cabins, cottages, and camps also continue to be good markets. Greater future development of the present markets served by natural gas is expected to boost sales of the yard and bracket models.

The first gas light manufacturer in the United States opened for business 86 years ago. Known as Pennsylvania Globe Gas Light Co., it also manufactured gasoline street lamps, a popular item of that period.

This company, which is still going strong, is known today by quite another name—Welsbach Corp. Although Welsbach no longer manufactures gas lights, it does maintain both gas and electric lamps. In addition, Welsbach maintains traffic signals, operates a construction business for sewage and water plants, manufactures and sells ozone equipment, has a factory which produces gas and water plumbing supplies, has a ship yard, and operates an engineering company.

Welsbach has also been selling the old Welsbach lamps which are being removed from city streets. For example, a distributor, Welsbach Gas and Electric Sales Co., recently purchased 31 Welsbach "Boulevard" lamps from Welsbach Corp. and sold them to Disneyland. As a result, these lamps, originally located on the streets of Baltimore, now are installed on Disneyland's "Main Street, U. S. A."

Another long-established firm is The Sunshine Mantle Co. of Chanute, Kan. Sunshine was established in 1900 to manufacture incandescent gas mantles. The company prospered in the early 1900's, when it produced some three million mantles per year. Sales later dropped, however, as electric lighting gained prominence; and, in order to take up the slack, the company entered the wholesaling field. It was not until 1949, however, that the company decided to discontinue manufacturing the gas mantles.

Sunshine has watched the gas lighting revival with more than passing interest. In July 1958, the company began experimenting with models of outdoor gas lanterns. By the end of 1958, Sunshine had designed two models providing proper combustion and adequate venting of the combustion gases. Both models are now in production at the Chanute plant.

Sunshine is now manufacturing 600 lanterns per month. The company reports, however, that this rate is inadequate to handle customer demands. As a result, plans are being made to increase plant capacity in the near future.

Besides the two current models, Sunshine has two other models in the design stage, and a third model in the testing laboratory. These will be in production soon.

Another firm which recently returned to the manufacture of gaslight equipment is American Lantern and Manufacturing Co. of Cleveland. This company, headed by Joseph A. Rosenfield, president, was founded in Philadelphia more than 40 years ago. At that time, it manufactured gas lights exclusively. Later, it manufactured electric wares.

Since its return to the gaslight field, American Lantern has marketed four models—the "Americana," the "Old Philadelphia," the "Modernaire," and the "Legacy."

The "Silk Ray" gas lamp, a product of Sunderland Manufacturing Co., Sioux Falls, S. D., is advertised as "the decorative lamp for outdoor illumination." The "Silk Ray" is styled to complement any home decor and landscape, and is adaptable for post or wall bracket installation.

Nestled in the modern surroundings of New York's International Airport is Trageser Copper Works, Inc., manufacturer of the Trageser "Vari Ray" gas lamp. A "Vari Ray" on the lawn can be remotely controlled by a dial in the home to shine with either a soft glow or a bright beacon.

Herbert Preston Smith, Trageser sales manager, believes that the "Vari Ray" lights can be sold in department stores.

Falcon Manufacturing Co. of Dallas, another gas lamp manufacturer, presently has a daily output of some 200 units. In order to meet the ever increasing demands for the lamps, Falcon—which appeared on the gaslight scene shortly after the modern revival began—plans to increase this daily rate in the near future.

In Russell, Ill., a fast growing community near Chicago, the Modern Home Products firm is producing the "Charmglo," an attractive gas lamp. The "Charmglo," which is advertised as "an eye-catching outdoor gas lamp that offers a warm welcome to the home," is made of copper and brass and is fashioned for "beauty and lasting service."

Another gas lamp manufacturer is Hadco Aluminum Products Co. of Littlestown, Pa. Hadco, which produces an all-cast-aluminum lantern "in authentic reproductions of the gaslight era," currently has three models in its line.

Roberts-Gordon Appliance Corp. of Buffalo, N. Y., one of the largest and oldest manufacturers of gas conversion burners in the country, is the newest firm in the gas light field. This company will soon begin production of a gas lamp.

The modern gas light industry is growing so rapidly that even the men closest to it hesitate to predict its ultimate sales potential. In an effort to help fulfill this potential, the Gas Appliance Manufacturers Association is planning to establish a new gas light division.

During 1958, some 250,000 gas lights were sold. The consensus of the industry is that sales in 1959 might well reach 500,000.

Kirk Industries, Inc., will market 8-cubic-foot gas refrigerator

A NEW EIGHT-CUBIC-FOOT Kirk gas refrigerator will be ready for shipment next month. The new model, a product of Kirk Industries, Inc., will have both a full width freezer and a vegetable crisper, and

will be available for all types of gas. The freezing unit, which will be a sealed absorption-type system with no moving parts, will carry a 10-year guarantee.

In addition to the 10.2-cubic-foot and

eight-cubic-foot models, Kirk Industries plans to produce a five-and-one-half-cubic-foot gas-operated refrigerator, a 14-cubic-foot refrigerator-freezer, a 10-cubic-foot home freezer, and a six-case gas beverage cooler.

New A.G.A. members

In order that members may keep their *A. G. A. Membership List* up to date, the A. G. A. MONTHLY will publish quarterly all new member companies, manufacturers and individual members who have become affiliated with the Association since the membership book was published.

A style similar to that used in the *A. G. A. Membership List* is reproduced here, and it is suggested that members remove these pages from the Monthly and attach to the membership book.

Gas Companies

- Gas Service, Inc.
70 E. Pearl St., (P.O. Box 520).....Nashua, N. H.
Charles R. Prichard, Pres.
- The Houston Corp.—Daytona Beach Div.
614 Volusia Ave., (P.O. Box 911)...Daytona Beach, Fla.
E. B. Sloan, Dist. Mgr.
- The Houston Corp.—Lakeland Div.
500 So. Florida Ave., (P.O. Box 400)....Lakeland, Fla.
T. M. Edwards, Dist. Mgr.
- The Houston Corp.—Triangle Div.
125 No. Grove St., (P.O. Box 305).....Eustis, Fla.
Irwin Silverman, Dist. Mgr.
- Industrial Gas Supply Corp.
2021 Tennessee Bldg.....Houston 2, Tex.
Paul R. Taylor, Pres.
- Lake Shore Pipe Line Co.
4505 Main Ave.....Ashtabula, Ohio
R. W. Ramsdell, Pres. (1405 E. Sixth St., Cleveland 1, Ohio)
- London Gas Co., Inc.
421 West 4th St.....London, Ky.
F. L. Dupree, Jr., Vice Pres.
- Virginia Beach Gas Corp.
1118 Cypress Ave.....Virginia Beach, Va.
Wallace T. Clark, Pres.

Holding Companies

- The Houston Corp.
First Federal Bldg., (P.O. Box 10400) ..St. Petersburg, Fla.
F. E. Stanley, Pres.

Service Companies

- Ford, Bacon & Davis, Inc.
39 Broadway.....New York 6, N. Y.
W. B. Poor, Sr., Vice Pres.
(Note: This company transferred membership from Associate Member to Service Company.)

Manufacturer Companies

- Chrysler Corp., Airtemp Div.
1600 Webster St.....Dayton 4, Ohio
Sydney Anderson, Jr., Gen. Mgr. Packaged Heating & Cooling Equipment
- Dunkirk Radiator Corp.
85 Middle Rd.....Dunkirk, N. Y.
Malcolm C. Reed, Pres.
- Dur-O-Matic Water Heater Manufacturing Co.
1000 East 17th St.....Hialeah, Fla.
Nat Strauss, Owner

- Eagle Range & Manufacturing Co.
119 So. 14th St.....Belleville, Ill.
George G. Super, Vice Pres.
- Ewing Manufacturing Co.
2545 N. W. 10, Box 875.....Oklahoma City, Okla.
Hal Ewing, Vice Pres.
- Flynn Burner Corp.
12 Potter Ave.....New Rochelle, N. Y.
J. Harold Flynn
- Gray & Dudley Co., Martha Washington Div.
2300 Clifton Rd.....Nashville 9, Tenn.
L. C. Carroll, Vice Pres.
- Handling Equipment Manufacturing Corp., Bowen Water Heater Div.
.....Wixom, Mich.
M. E. Bowen, Pres.
- Jacobs Heater Corp.....Athens, Ala.
R. A. Jacobs, Pres.
- Liberty Combustion Corp.
East Malloy Rd.....Syracuse, N. Y.
William H. Moore, Pres.
- Moonglow Gas Light Co.
151 Arvin Drive.....San Antonio 9, Tex.
Coretta G. Martin, Pres.
- Mor-Flo Heater Corp.
2176 E. 76th St.....Cleveland 3, Ohio
George W. Cahlik, Engr.
- National Furnace Corp.
1101 Atwood Ave.....Johnston 9, R. I.
B. K. Walpole, Secy.-Treas.
- Northwest Foundry & Furnace Co.
2345 S. E. Gladstone St.....Portland 2, Ore.
W. R. Pindell, Vice Pres.
- Preway, Inc.
1430 Second St., North.....Wisconsin Rapids, Wisc.
H. T. Anderson, Vice Pres.-Director of Sales
- Raleigh Water Heater Manufacturing Co.
2447 N. W. 75th St.....Miami 47, Fla.
Louis Birard, Vice Pres.
- Rapid Specialties Co.
P.O. Box 446.....Cedar Rapids, Iowa
Calvin H. Ling, Mgr.
- Saunier Duval
17, rue Guillaume Tell.....Paris 17, France
Edouard Jaupart, Dir. Gen. Adjoint
- Van Dorn Iron Works Co., Infra-Red Div.
2685 E. 79th St.....Cleveland 4, Ohio
John S. McElwain, Sales Mgr.
- Western Boiler Engineers
1616 Anson Rd.....Dallas 35, Tex.
Ralph Plumlee, Owner
- Westinghouse Electric Corp., Air Conditioning Div.....Staunton, Va.
Raymond K. Serfass

Individual Members

- Ahmad, Mohammad B.Karachi Gas Co.
Indl. Engr.Variawa Bldg., McLeod Rd., Karachi, Pakistan
- Aitken, George A.Long Island Lighting Co.
Mgr. U. G. I. & M. Dept.Orinoco Drive, Brightwaters, N. Y.
- Alden, CharlesSuperior Meter Co.
N. W. Mgr.2680 N. W. Thurman St., Portland 10, Ore.
- Allen, Edward A.Milwaukee Gas Light Co.
Mgr. Sales Prom.626 E. Wisconsin Ave., Milwaukee 1, Wisc.
- Allen, Edwin A.Texas Illinois Natural Gas Pipeline Co.
Asst. Gen. Supt. Prodcn.P. O. Box 283, Houston, Tex.
- Allison, V. R.The Gas Service Co.
Mgr.8th & Francis St., St. Joseph, Mo.
- Anderson, J. J.Pacific Gas & Electric Co.
Dist. Coml. Mgr.2065 Concord Blvd., Concord, Calif.
- Anderson, Robert S.Pennsylvania Gas Co.
Asst. Coml. Mgr.1017 French St., Erie, Penna.
- Arnold, Jr., John L.City Utilities, City of Albany
Gen. Supt.Albany, Ga.
- Arr, Merle W.Texas Illinois Natural Gas Pipeline Co.
Supt. Corsn. Eqpmt. Mntce.Box 334, Malvern, Ark.
- Austin, W. W.The Gas Service Co.
Propty. Mgr.132 E. Culton, Warrensburg, Mo.
- Ayre, Nathaniel G.Hope Natural Gas Co.
Sales Rep'v. Sr.P. O. Box 271, Parkersburg, W. Va.

- Babcock, M. R. Canadian Propane, Ltd.
463 Dawson Rd., St. Boniface, Man., Can.
- Ball, Jr., Robert W. Tidewater Natural Gas Co.
Htg. & Indl. Engr. P. O. Box 1529, Wilmington, N. C.
- Baum, M. C. The Gas Service Co.
Propty. Mgr. 4th & Bond St., Monett, Mo.
- Belensky, Michael J. Philadelphia Gas Works Div., U.G.I. Co.
Asst. Mgr., Custmr. Serv. 1800 N. 9th St., Philadelphia 22, Penna.
- Bell, Robert W. Metropolitan Utilities District
Asst. Supt. Mechnl. Serv. 1730 South 19th Ave., Omaha, Nebr.
- Bessey, James W. Canadian Gas Association
Secy. 2532 Yonge St., Toronto 12, Ont., Can.
- Bielenberg, A. C. Iowa-Illinois Gas & Electric Co.
206 East 2nd St., Davenport, Iowa
- Blauevelt, G. L. The Gas Service Co.
Propty. Mgr. 407 No. Mill, Beloit, Kans.
- Boomer, Robert E. Texas Illinois Natural Gas Pipeline Co.
Supt. Pipelines 122 So. Michigan Ave., Chicago 3, Ill.
- Boyd, William A. New York State Natural Gas Corp.
Dept. Hd. Gen. Acctng. 2 Gateway Center, Pittsburgh 22, Penna.
- Brenner, Norman H. Milwaukee Gas Light Co.
Supt. V. Serv. Shop 636 E. Wisconsin Ave., Milwaukee 1, Wisc.
- Brown, Austen T. San Diego Gas & Electric Co.
Acctnt. 1025 Newkirk Drive, La Jolla, Calif.
- Brown, Walter D. Middle West Service Co.
Mgr., Engrng. Dept. 20 No. Wacker Drive, Chicago 6, Ill.
- Brua, Lynn A. Robert Heller & Associates, Inc.
Associate 1568 Union Commerce Bldg., Cleveland 14, Ohio
- Byrnside, John H. Hope Natural Gas Co.
Asst. Secy. 445 W. Main St., Clarksburg, W. Va.
- Cariglino, Gregorio A. Argentine Government Oil Fields
Chief of Commission 350 Fifth Ave., New York 1, N. Y.
- Carr, William C. Radiant-Heating, Ltd., Radiant Works
Managing Dir. Barnsbury Park, London, N. 1, England
- Chase, Paul D. Public Service Electric & Gas Co.
Engr. 80 Park Place, Newark 1, N. J.
- Clarkson, George Public Service Electric & Gas Co.
Indl. Rep'g. 252 Main St., Orange, N. J.
- Coffey, John G. Michigan Wisconsin Pipe Line Co.
Supt. Gen. Acctng. Div. 500 Griswold St., Detroit 26, Mich.
- Colpitts, Rolfe R. Northern Ontario Natural Gas Co., Ltd.
Mgr. Indl. Coml. Sales 170 University Ave., Toronto, Ont., Can.
- Cooke, F. M. The Gas Service Co.
Propty. Mgr. 506 No. Main St., Hutchinson, Mo.
- Costamagna, D. J. Pacific Gas & Electric Co.
Serv. Foreman 1314-29th St., Sacramento, Calif.
- Couvetta, George J. San Diego Gas & Electric Co.
Tab. Supvr. 4650 Seminole Drive, San Diego 15, Calif.
- Cox, Vincent D. Boston Gas Co.
Supt. Cent. St. Div. Dsbm. 144 McBride St., Jamaica Plain 30, Mass.
- Crane, Jr., Philip A. Pacific Gas & Electric Co.
Attorney 245 Market St., San Francisco 6, Calif.
- Crouch, Robert H. Southern Union Gas Co.
Dist. Sales Mgr. 209 S. Halaqueno, Carlsbad, N. M.
- Danforth, Robert J. Milwaukee Gas Light Co.
Gen. Supt. Gas Supply 626 E. Wisconsin Ave., Milwaukee 1, Wisc.
- Davidson, John Consolidated Natural Gas Co.
Mgr. Tax Dept. 30 Rockefeller Plaza, New York 20, N. Y.
- Davis, Bettie Jean Southern Counties Gas Co.
Staff Home Econmst. P. O. Box 2736, Terminal Annex, Los Angeles 54, Calif.
- Day, Frank M. Grayson Controls Div., Robertshaw-Fulton Controls Co.
Supvr. Appln. Engrng. Dept. Long Beach Blvd. at Long Beach Freeway, Long Beach, Calif.
- Deltour, M. M. Kokomo Gas & Fuel Co.
Sales Mgr. 410 N. Main St., Kokomo, Ind.
- Dickey, Howard D. Cincinnati Gas & Electric Co.
Htg. & Air Condng. Engr. 4th & Main Sts., Cincinnati 1, Ohio
- Doane, Carroll F. Sanborn Map Co.
Vice Pres. 629 Fifth Ave., Pelham, N. Y.
- Dunn, Cecil H. Metropolitan Utilities District
Purchng. Agt. 1723 Harney St., Omaha 2, Nebr.
- Dupree, Jr., Frederic L. London Gas Co., Inc.
Vice Pres. Box 266, London, Ky.
- Erickson, Robert A. Consolidated Edison Co. of N. Y., Inc.
Cadet Engr. 4 Irving Place, New York 3, N. Y.
- Ewing, Harold T. Northern Illinois Gas Co.
Appln. Srvcmn. 615 So. Eastern Ave., Bellwood, Ill.
- Fett, Charles P. Southern Counties Gas Co.
Msrmt. & Regltn. Engr. P. O. Box 2736, Terminal Annex, Los Angeles 54, Calif.
- Fink, Bob The Gas Service Co.
Dir. Air Condng. 700 Scarritt Bldg., Kansas City 42, Mo.
- Folmer, Frederick J. Southern California Gas Co.
Admin. Aid. P. O. Box 3249, Terminal Annex, Los Angeles 54, Calif.
- Forrest, Robert M. Columbia Gas System Service Corp.
Engr. Sr. Prdctn. & Strg. 1600 Dublin Rd., Columbus 12, Ohio
- Forstchen, John J. Public Service Electric & Gas Co.
Plant Chemist Brunswick Ave., Trenton, N. J.
- Foster, Morris C. Pacific Northwest Pipeline Co.
Mgr. Trnsmn. Land Dept. P. O. Box 1526, Salt Lake City, Utah
- Fox, Leonard J. Ipsen Industries, Inc.
Devlpmnt. Engr. 715 So. Main St., Rockford, Ill.
- Friederich, Lambert A. Peoples Gas System, West Coast Div.
Dir. of Ops. P. O. Box 2562, Tampa, Fla.
- Fulton, Jack R. Western Natural Gas Co.
Dist. Chief Clerk P. O. Box 4287, Corpus Christi, Tex.
- Geller, William H. Boston Gas Co.
Asst. Mgr. Resdntl. Sales 100 Arlington St., Boston 16, Mass.
- Gilbert, Stephen J. Southern Counties Gas Co.
Air Condng. Sales Engr. P. O. Box 2736, Terminal Annex, Los Angeles 54, Calif.
- Glessner, John W. Solar Aircraft Co.
Sr. Analytl. Engr. 2200 Pacific Highway, San Diego 12, Calif.
- Goodick, Donald L. Boston Gas Co.
Asst. Engr., Dsbm. Desgn. 144 McBride St., Jamaica Plain 30, Mass.
- Gordon, Evelyn S. Metropolitan Utilities District
Home Serv. Dir. 1723 Harney St., Omaha 2, Nebr.
- Griffin, Kramer B. Electro Rust-Proofing Corp.
Field Engr. 3 Rhodes Center, N. W., Atlanta 9, Ga.
- Groz, Harold Pacific Gas & Electric Co.
Asst. Supvr. 501 San Felipe Ave., San Bruno, Calif.
- Gundersen, Walter J. Central Hudson Gas & Electric Co.
Jr. Engr.-Systm. Ops. South Road, Poughkeepsie, N. Y.
- Hackett, Donald V. Dresser Mfg. Div., Dresser Industries, Inc.
Mgr. Gas Indstry. Sales 41 Fisher Ave., Bradford, Penna.
- Hall, Elizabeth Brooklyn Borough Gas Co.
Asst. Treas. 817 Neptune Ave., Brooklyn 24, N. Y.
- Hall, E. F. Pacific Gas & Electric Co.
Transfer Agt. 245 Market St., San Francisco 5, Calif.
- Hansen, David F. Minneapolis Gas Co.
Mgr. Utilzn. 700 N. Linden, Minneapolis 5, Minn.
- Harrison, James E. Milwaukee Gas Light Co.
Supvr. Machine Acctng. 626 E. Wisconsin Ave., Milwaukee 1, Wisc.
- Hart, J. Paul Waynesboro Gas Co.
Estrn. Div. Mgr. 12 So. Seventh St., Stroudsburg, Penna.
- Healy, John The Gas Service Co.
Supt. Instln. Serv. Dept. 842 Grand Ave., Kansas City, Mo.
- Hedding, Linnie K. Union Switch & Signal Div., Westinghouse Air Brake Co.
Sect. Hd. Braddock Ave., Pittsburgh 18, Penna.
- Heid, Robert C. Columbia Gas System Service Corp.
Asst. Sr. Engr. 1600 Dublin Rd., Columbus 12, Ohio
- Heise, A. E. Pacific Gas & Electric Co.
3235-18th St., San Francisco, Calif.
- Helke, Paul E. Milwaukee Gas Light Co.
Mgr. Data Procsng. 626 E. Wisconsin Ave., Milwaukee 1, Wisc.
- Hemp, Jr., Albert T. New York State Natural Gas Corp.
Supvr. Gas Meas. Acctg. 2 Gateway Center, Pittsburgh 22, Penna.
- Hendricks, Thomas M. Baltimore Gas & Electric Co.
Spring Gardens Plant, Baltimore 3, Md.
- Hicks, H. S. The Gas Service Co.
Propty. Mgr. 118 E. 4th St., Pittsburgh, Kans.
- Holder, Robert H. Milwaukee Gas Light Co.
Mgr. Desgn. Dept. 626 E. Wisconsin Ave., Milwaukee 1, Wisc.
- Hollman, Peter I. Robertshaw-Fulton Controls Co.
Staff Specist. 2920 N. Front St., Philadelphia 33, Penna.
- Holmes, Robert S. Milwaukee Gas Light Co.
Acctnt. 626 E. Wisconsin Ave., Milwaukee 1, Wisc.
- Hoyer, Robert E. Southern Counties Gas Co.
Div. Chf. Clerk P. O. Box 757, Indio, Calif.
- Hubert, Harold V. American Louisiana Pipe Line Co.
Safety Dir. 500 Griswold St., Detroit 26, Mich.
- Huff, Hilton H. Southern Counties Gas Co.
Lead Acctnt. P. O. Box 2736, Terminal Annex, Los Angeles 54, Calif.
- Hungerford, John R. The Bridgeport Gas Co.
815 Main St., Bridgeport 1, Conn.
- Jackson, H. N. Eclipse Fuel Engineering Co.
20 Upjohn Rd., Don Mills, Toronto, Ont., Can.
- Jefferson, William J. Consumers Power Co.
Sr. Mkrt. Anlyst. 212 W. Michigan Ave., Jackson, Mich.
- Jenkins, C. H. The Gas Service Co.
Propty. Mgr. 200 W. Sixth St., Topeka, Kans.
- Jenkins, G. H. The Gas Service Co.
Propty. Mgr. 408 Dewey Ave., Bartlesville, Okla.
- Jensen, Otto L. Northern Illinois Gas Co.
Constn. Supt. 615 Eastern Ave., Bellwood, Ill.
- Jochimsen, Raymond C. Milwaukee Gas Light Co.
Supt. Plants 626 E. Wisconsin Ave., Milwaukee 1, Wisc.
- Johnson, Joseph H. The Hartford Electric Light Co.
Mgr. 429 Atlantic St., Stamford, Conn.
- Johnson, Robert W. Portsmouth Gas Co.
Vice Pres. & Treas. P. O. Box 590, Portsmouth, Va.
- Jones, Lance Siegler Heater Co.
Asst. to Pres. Centralia, Ill.
- Junker, Ashton S. New Orleans Public Service, Inc.
Data Procsng. Anlyst. 317 Baronne St., New Orleans 9, La.
- Kells, King G. Superior Meter Co.
Branch Mgr. 101 Rollins Rd., Millbrae, Calif.
- Kempka, Earl L. Milwaukee Gas Light Co.
Mgr.-Inspctn. Standards 626 E. Wisconsin Ave., Milwaukee 1, Wisc.
- Kolberg, Wallace C. Southern Counties Gas Co.
Air Condng. Sales Engr. P. O. Box 2736, Terminal Annex, Los Angeles 54, Calif.
- Kubit, Regis W. A. V. Smith Engineering Co.
Engr. Essex Bldg., Narberth, Penna.
- Lancy, Frank J. Southern Counties Gas Co.
Field Rep'v. II P. O. Box 2736, Terminal Annex, Los Angeles 54, Calif.
- Langie, D. B. Gas Consumers Service
Supt. 1135 E. 12th St., Los Angeles 21, Calif.
- Laning, Lorence A. The Peoples Gas Light & Coke Co.
Sr. Engr. 1250 S. Kilbourn, Chicago 23, Ill.

Laws, E. E. The Gas Service Co.
 Propy. Mgr. 329 So. Douglas, Lee's Summit, Mo.
 Lee, Arthur M. Athens Utilities Board, Div. of Gas
 Supt. P.O. Box 58, Athens, Tenn.
 Lefebvre, Daniel C. Gaz de France
 Washington Rep've. 1346 Connecticut Ave., N. W., Washington
 6, D. C.
 Lehmann, Joseph A. Electro Rust-Proofing Corp.
 Div. Engr. 3 Rhodes Center, N. W., Atlanta 9, Ga.
 Lenihan, Edward J. Public Service Electric & Gas Co.
 Asst. Mgr. Indl. Sales 80 Park Place, Newark 1, N. J.
 Likes, Howard C. San Diego Gas & Electric Co.
 Supvr. St. Sect. Gas Dept. P.O. Box 1831, San Diego 12, Calif.
 Lillenberg, Marjorie, Mrs. The Peoples Natural Gas Co.
 2 Gateway Center, Pittsburgh 22, Penna.
 Logsdon, Rex J. Panhandle Eastern Pipe Line Co.
 Chf. Field Dspchtr. Box 979, Liberal, Kans.
 Lorentz, Myron N. Southern California Gas Co.
 Adm. Aid P.O. Box 3249, Terminal Annex, Los Angeles 54, Calif.
 Lutz, Don T. Natural Gas Pipeline Co. of America
 Dir. Employee & Pub.
 Reltns. 122 So. Michigan Ave., Chicago 3, Ill.
 Mackie, Frederick D. Madison Gas & Electric Co.
 Gen. Supt. 100 No. Fairchild St., Madison 1, Wisc.
 Maguire, William E. The Peoples Gas & Light & Coke Co.
 Sr. Engr. 122 So. Michigan Ave., Chicago 3, Ill.
 Mally, Elliott C. Thermac Co.
 Sales Engr. 14296 E. 6th St., Corona, Calif.
 Manney, C. G. The Gas Service Co.
 Propy. Mgr. 200 E. 5th St., Arkansas City, Kans.
 Marmaros, Harold E. Middle West Service Co.
 Mgr. Enclmes. Dept. 20 No. Wacker Drive, Chicago 6, Ill.
 Marshall, Bernard Southern Counties Gas Co.
 Staff Asst.-Stores P.O. Box 2736, Terminal Annex, Los Angeles 54, Calif.
 Martin, Amelia H. Brooklyn Borough Gas Co.
 Secy. 817 Neptune Ave., Brooklyn 24, N. Y.
 McClelland, H. The Gas Service Co.
 Propy. Mgr. 1810 Broadway, Parsons, Kans.
 McGillicuddy, Shirley B. Southern Counties Gas Co.
 Asst. Home Serv. Supvr. P.O. Box 2736, Terminal Annex, Los Angeles 54, Calif.
 McGraw, Kathleen E. Michigan Wisconsin Pipe Line Co.
 Mgr. Office Servs. 500 Griswold St., Detroit 26, Mich.
 McNamara, W. A. Madison Gas & Electric Co.
 Finl. Vice Pres. 100 N. Fairchild St., Madison 1, Wisc.
 Metz, David O. Laclede Gas Co.
 Asst. Supt. Garages 3950 Forest Park Blvd., St. Louis 8, Mo.
 Metzker, Robert E. Pacific Gas & Electric Co.
 Indl. Pwr. Engr. P.O. Box 540, San Rafael, Calif.
 Middaugh, Gerald V. Koppers Co., Inc.
 Mgr. Gas & Coke Oven
 Eqpm. Dept. 200 Scott St., Baltimore 3, Md.
 Miller, C. D. Republic Natural Gas Co.
 Pres. 311 S. Akard St., Dallas 2, Tex.
 Miller, Robert L. Siegler Heater Co.
 Asst. Vice Pres. Adv. Centralia, Ill.
 Morck, Jr., Charles W. Selas Corp. of America
 Sr. Resrch. Engr. Dresher, Penna.
 Moxness, S. A. Northwestern Public Service Co.
 Pres. 400 National Bank Bldg., Huron, S. D.
 Needles, Donald E. Milwaukee Gas Light Co.
 Plngng. Asst. to Dir. Cust.
 Serv. 626 E. Wisconsin Ave., Milwaukee 1, Wisc.
 Nelson, James S. Consolidated Natural Gas Co.
 Chf. Acctnt. 30 Rockefeller Plaza, New York 20, N. Y.
 Newsom, Raymond C. Southern Counties Gas Co.
 Staff Aid II P.O. Box 2736, Terminal Annex, Los Angeles 54, Calif.
 Noland, Carroll The Gas Service Co.
 Propy. Mgr. 118 No. Main St., Liberty, Mo.
 Nopper, Willis L. Roots-Connorsville Blower Corp.
 Dist. Mgr. 122 East 42nd St., New York 17, N. Y.
 Nuzum, Frank J. Hope Natural Gas Co.
 Sales Rep've. 445 W. Main St., Clarksburg, W. Va.
 O'Brien, D. J. Pacific Gas & Electric Co.
 Sales Supvr. 86 So. Third St., San Jose, Calif.
 O'Neil, Edward W. Donner-Hanna Coke Corp.
 Vice Pres. & Gen. Mgr. Box A, South Park Station, Buffalo 20, N. Y.
 Ostergren, Ben F. Siegler Heater Co.
 Vice Pres. Sales Centralia, Ill.
 Ouellette, Charles A. City of Elizabethtown, Elizabethtown
 City Engr. City Hall, Elizabethtown, Ky.
 Pansini, Anthony J. Long Island Lighting Co.
 Mgr. Systems & procds. 250 Old Country Rd., Mineola, N. Y.
 Phoenix, Jr., Julius W. Haskins & Sells
 Partner 67 Broad St., New York 4, N. Y.
 Piccone, D. N. International Business Machines Corp.
 425 Park Ave., New York 22, N. Y.
 Pierce, Jack W. Southern California Gas Co.
 Supvr. Engr. Standards P.O. Box 3249, Terminal Annex, Los Angeles 54, Calif.
 Pierce, Robert N. Columbia Gas System Service Corp.
 Asst. Sr. Comprsr. Engr. 1600 Dublin Rd., Columbus 12, Ohio
 Pignatelli, J. B. San Diego Gas & Electric Co.
 Supvr. St. Sect. Gas Dept. P.O. Box 1831, San Diego 12, Calif.
 Plitt, Jr., Louis E. Texas Eastern Transmission Corp.
 Sect. Hd. P.O. Box 1612, Shreveport, La.
 Pollitt, Van Dyke J. Electro Rust-Proofing Corp.
 Consn. Eng. 3 Rhodes Center, N. W., Atlanta 9, Ga.
 Porter, J. N. The Gas Service Co.
 Propy. Mgr. 6012 Johnson Drive, Mission, Kans.

Powell, J. B. The Gas Service Co.
 Propy. Mgr. 117 So. 6th St., Hiawatha, Kans.
 Prasil, A. G. Southern Union Gas Co.
 Engr. Burt Bldg., Dallas 1, Tex.
 Protz, Russell A. Milwaukee Gas Light Co.
 Supt. Coml. & Indl. Serv. &
 Meter Repair 626 E. Wisconsin Ave., Milwaukee 1, Wisc.
 Pynar, Robert L. National Fuel Gas Co.
 Secy. & Treas. 30 Rockefeller Plaza, New York 20, N. Y.
 Reed, Sr., Ferdinand J. San Diego Gas & Electric Co.
 Supvr. St. Sect. Gas Dept. P.O. Box 1831, San Diego 12, Calif.
 Richter, Carl F. Southern California Gas Co.
 Staff Aid P.O. Box 3249, Terminal Annex, Los Angeles 54, Calif.
 Ring, John F. Store & Webster Service Corp.
 Consltnt. Gas Ops. 90 Broad St., New York 4, N. Y.
 Robertson, II, George N. Southern Counties Gas Co.
 Sr. Clerk P.O. Box 2736, Terminal Annex, Los Angeles 54, Calif.
 Rockett, W. J. Pacific Gas & Electric Co.
 Fld. Supvr., Dir. Sls. & Pro. 1310 Dorothy Ave., San Leandro, Calif.
 Rogers, Ralph Southern Union Gas Co.
 Dist. Sales Mgr. P.O. Box 1692, Albuquerque, N. M.
 Root, Warren J. Rochester Gas & Electric Corp.
 Asst. Supt. Cust. Acctng. 89 East Ave., Rochester 4, N. Y.
 Rosengarten, Jr., Walter E. Philadelphia Electric Co.
 Assoc. Sr. Engr. 900 Sansom St., Philadelphia 4, Penna.
 Russell, J. Warren Elizabethtown Consolidated Gas Co.
 Dir. Dom. Sales 16 W. Jersey St., Elizabeth 4, N. J.
 Sanabria, Hermenegildo Master Electric
 Jefe De Servicio E. Ayestaran 621 Esquina A Pinera
 Instalaciones Cerro-Havana, Cuba
 Sargent, Jr., Ralph Public Service Co. of Colorado
 Mgr., Div. Ops. P.O. Box 840, Denver 1, Colo.
 Schaefer, John H. The Ohio Oil Co.
 Box 60, Findlay, Ohio
 Schmidt, Harry J. Philadelphia Gas Works Div., U.G.I. Co.
 Asst. Mgr. Gen. Acctng.
 Dept. 1800 N. 9th St., Philadelphia, Penna.
 Smith, Francis T. Long Island Lighting Co.
 Restrnt. Rep've. 250 Old Country Rd., Mineola, N. Y.
 Schmitt, Robert W. Siegler Heater Co.
 Sales Mgr. Centralia, Ill.
 Sinnott, Charles J. New Orleans Public Service Inc.
 Gen. Sales Mgr. P.O. Box 340, New Orleans 9, La.
 Solomon, James W. Alabama-Tennessee Natural Gas Co.
 Engr. P.O. Box 380, Florence, Ala.
 Steiner, Harvey M. Long Island Lighting Co.
 Indl. Engr. 250 Old Country Rd., Mineola, N. Y.
 Schofield, Jr., Carl W. Northampton Gas Light Co.
 Vice Pres. & Mgr. 212 Main St., Northampton, Mass.
 Scott, Lloyd A. Hope Natural Gas Co.
 Mgr.-Rates 445 W. Main St., Clarksburg, W. Va.
 Shelbare, Jr., William N. Hope Natural Gas Co.
 Mgr. Purch. & Material
 Cont. 445 W. Main St., Clarksburg, W. Va.
 Shuttleworth, Raymond T. Northern Indiana Fuel & Light Co.
 Vice Pres. & Gen. Mgr. 156 E. Seventh St., Auburn, Ind.
 Smith, A. C. Pacific Gas & Electric Co.
 Indl. Pwr. Engr. P.O. Box 1171, Salinas, Calif.
 Smith, John F. Northwest Natural Gas Co.
 Coml. & Indl. Sales Mgr. 7030 S. W. 14th Ave., Portland, Ore.
 Spratt, Frank R. Day & Night Manufacturing Co.
 Gen. Sales Mgr. P.O. Box 2222, La Puente, Calif.
 Sprtel, Frank D. Milwaukee Gas Light Co.
 Mgr. W. Bend Off. 626 E. Wisconsin Ave., Milwaukee 1, Wisc.
 Spurrier, W. F. North Central Public Service Co.
 Treas. & Compt. 1725 Carroll Ave., St. Paul 4, Minn.
 Stapp, Dan E. New Orleans Public Service, Inc.
 Data Processing Analyst 317 Baronne St., New Orleans 9, La.
 Stein, William G. Rochester Gas & Electric Corp.
 Indl. Gas Engr. 89 East Ave., Rochester 4, N. Y.
 Steiner, William F. The Payne Co.
 Gen. Sales Mgr. P.O. Box 2222, La Puente, Calif.
 Stevens, William R. The Berkshire Gas Co.
 Vice Pres. Ops. 20 Elm St., Pittsfield, Mass.
 Stinson, Stephen C. Waynesboro Gas Co.
 Msmt. Engr. 55 So. 3rd St., Oxford, Penna.
 Stoll, William Long Island Lighting Co.
 Mgr. Gen. Servs. & Shop 175 Old Country Rd., Hicksville, N. Y.
 Thompson, Joe E. Natural Gas Pipeline Co. of America
 Asst. Chf. Engr. 122 So. Michigan Ave., Chicago 3, Ill.
 Thompson, Ralph Arizona Public Service Co.
 Insrnc. & Claims Mgr. P.O. Box 2591, Phoenix, Ariz.
 Titch, Herbert A. The Ohio Fuel Gas Co.
 Mgr. Prodn. 99 No. Front St., Columbus 15, Ohio
 Trittshuh, James O. The Dayton Power & Light Co.
 Acting Mgr., Gas Div. 25 No. Main St., Dayton 1, Ohio
 Tucker, William G. San Diego Gas & Electric Co.
 Accts. Payable Mgr. 5622 Ashland Ave., San Diego 12, Calif.
 Ullman, Walter C. Siegler Heater Co.
 Pres. Centralia, Ill.
 Wagner, Charles A. Northern Illinois Gas Co.
 Dist. Supvr., Serv. Credit
 & Cash 1629 Champlain St., Ottawa, Ill.
 Wagner, W. C. P. Northwestern Utilities, Ltd.
 Mrchdsg. Supvr. 10124-104th St., Edmonton, Alta., Can.
 Watkins, Daniel G. Southern California Gas Co.
 Staff Aid P.O. Box 3249, Terminal Annex, Los Angeles 54, Calif.
 Ward, T. E. Pacific Gas & Electric Co.
 Div. Mgr. P.O. Box 1171, Salinas, Calif.

Watson, Kenneth R. Philadelphia Electric Co.
 Asst. Mgr. Propty. Recds.
 Div. 1000 Chestnut St., Philadelphia 5, Penna.
 Weir, R. L. The Gas Service Co.
 Propty. Mgr. 220 W. 4th St., Joplin, Mo.
 Williams, James Ontario Research Foundation
 Dir. Chem. Resrch. 43 Queens Park, Toronto 5, Ont., Can.
 Wilson, Walter D. George Wilson Gas Meters, Ltd.
 Chrmn. & Mng. Dir. 475 Foleshill Rd., Coventry, Warwickshire, Eng.
 Winthrop, Murray Southern California Gas Co.
 Sect. Supvr. P.O. Box 3249, Terminal Annex, Los Angeles 54, Calif.
 Wood, Harry S. Long Island Lighting Co.
 Mgr. West. Div., Gas Prod. & Oper. Dept. P.O. Box 738, Glenwood Gas Plant, Glenwood Landing, N. Y.
 Worthington, C. A. Southern California Gas Co.
 Admn. Employee Med.

Plans P.O. Box 3249, Terminal Annex, Los Angeles 54, Calif.
 Wrenn, Stafford T. Southern California Gas Co.
 Dist. Plnt. Frmn. East Area P.O. Box 3249, Terminal Annex, Los Angeles 54, Calif.
 Wright, Frank Southern Union Gas Co.
 Utilzn. Mgr. Burt Bldg., Dallas 1, Tex.
 Wright, Fred J. San Diego Gas & Electric Co.
 Supvr. Invstgtns. P.O. Box 1831, San Diego 12, Calif.
 Wright, Robert R. Columbia Gas System Service Corp.
 Asst. Sr. Engr. 1600 Dublin Rd., Columbus 12, Ohio
 Yohe, Lloyd L. Hope Natural Gas Co.
 City Plant Mgr. P.O. Box 271, Parkersburg, W. Va.
 Zavatero, A. J. Pacific Gas & Electric Co.
 Dist. Coml. Mgr. 1625 Clay St., Oakland, Calif.

Consolidated Edison launches modern kitchen promotion

CONSOLIDATED EDISON CO. of New York, Inc., has launched its new Modern Kitchen promotion. Featuring a concept which divides the kitchen into four major appliance centers, the promotion has introduced the idea that kitchen planning can be done either all in one operation or one step at a time.

During a recent meeting at New York City's Hotel Biltmore, J. C. Murtha, general manager of sales promotion, explained the company's \$200,000 program to dealers, distributors, and manufacturers of major kitchen and laundry appliances and equipment, and to local banking representatives.

Mr. Murtha said that the program will focus attention on appliances and on the planned modernization of the kitchen's

cooking, laundry, refrigerator-freezer, and dishwasher-sink centers, including related storage and work areas.

A major element in the promotion is the company's Kitchen Planning Kit, which contains scale models of everything needed in a modern kitchen, including the walls, a door and window, major appliances, base cabinets with counter-top surfaces, wall cabinets, and special-purpose cabinets—a total of 44 pieces. The scale models, which are generally representative of the various sizes of appliances and equipment currently available on the market, can be arranged by each customer right in the carton in which they are packed.

As soon as a customer has decided on a kitchen arrangement, he can take it to a

kitchen modernization dealer who will prepare a final plan using the actual dimensions of the customer's kitchen and the cabinets and appliances which have been selected.

The dealer will include in the final plan the necessary wiring, lighting, ventilation, and plumbing. He will also help the customer select a decor for the kitchen. In addition, he will furnish a cost estimate and, if asked to do so by the customer, arrange financing.

Consolidated Edison has also prepared a Kitchen Modernization Booklet and a Dealer Directory, both of which will be distributed through dealers, banks, savings associations, and others who wish to use them for promotional purposes.

The booklet, which explains the major appliance center concept and describes ways in which an efficient and modern kitchen can be attained, includes sections on kitchen lighting, wiring, ventilation, and financing.

The directory lists the names and addresses of both appliance dealers—who sell major appliances—and kitchen modernization dealers—who design and install kitchens, including major appliances, counters, cabinets, plumbing, and electrical work.

As part of the promotion, the company is opening a new model kitchen and planning center in Brooklyn. Other planning centers and model kitchens are currently located in Manhattan, Queens, White Plains, Yonkers, and Staten Island. All promotional items will be available in these centers.

In addition, the company is conducting an extensive advertising program in the New York area in daily and weekly newspapers, on radio and television, and on billboards, subway and bus car cards, and truck posters.

Michigan Consolidated wins ad competition

AMICHIGAN CONSOLIDATED GAS CO. transit advertisement was chosen as the "Car Card of the Month"—the month was March—by the National Association of Transportation Advertising, Inc. The competition was judged by advertising agency executives.

The gas company's advertisement was selected from among 90 entries from all parts of the country in the national association's monthly contest. The March competition was

sponsored by O'Ryan and Batchelder, Inc., Philadelphia.

The winning car card was prepared by Cramer-Krasselt Co., Milwaukee advertising agency. The advertisement is one of a series prepared for A. G. A. and offered to gas companies throughout the country.

The Michigan Consolidated Gas advertisement will be entered in the national association's "Car Card of the Year" competition.



Carmen Helfer, "Miss Detroit Street Railway" for March, congratulates W. H. Glines (l.), assistant district sales manager, and Frederick A. Kiser, vice-president and general sales manager, both of Michigan Consolidated Gas Co., who display the company's award-winning advertisement

Ohio Fuel plans expansion

THE OHIO FUEL GAS CO. plans to spend nearly \$2 million during 1959 to expand its underground storage facilities. The company will drill 90 more storage wells, in order to increase its storage capacity and deliverability. Ohio Fuel Gas now has 11 underground storage reservoirs, in which almost one-third of all of the natural gas needed to meet winter heating demands is kept ready for use.

Organized forms tell your story



By **GEORGE F. DIXON**

*Property Records Supervisor
Milwaukee Gas Light Co.*

While a department within an organization goes about its daily business, a maze of detailed procedures are being developed. The best path to follow through these details—assuming that the procedures are well organized—is through a proper evaluation of the necessary original forms that lead from step to step.

The forms to be considered fall into two categories:

1. Those in use on a company-wide basis and illustrated in the *Standard Procedures Manual*.
2. Those designed for use within your specific department.

Should you elect this plan, you will find that you not only are gathering hundreds of forms, but you also are literally writing a "story" of your department's operations.

Such a departmental story will enable you to quickly explain procedures to new employees, representatives of public authority, internal and external auditors, and others concerned with the department's operations.

Here is how you develop this "story" or booklet.

Instruct each member of your department to submit five copies of every form he prepares during one day. Within this mass of printed material, you will find many duplications. Duplicates must be weeded out.

This weeding out process may show you some things about your department that heretofore had escaped your attention. For example, you may find identical forms, other than payroll time reports, turned in by more than one person. This gives weight to the question "Is assignment of like work to more than one person necessary?"

Once duplicates are eliminated, the five copies of each form, or set of forms, must be arranged in some logical sequence so that they fit into a relationship to a specific company operation. The arrangement I have found most suitable for our company is as follows:

1. Budget and work order controls.
2. Work order charges and cost reports.
3. Property record, ledgers, and reports.
4. Property unit control.
5. Special reports.

This arrangement lent itself to an analysis of the Property Records Depart-

ment's place within our accounting department. The forms within a group must be further arranged so as to indicate machine accounting source document numbering, importance to the desired end results, natural reporting, etc. Once this is accomplished, the forms can be arranged into five identical sets. Before separating the forms, it is wise to assign a temporary number to the forms used as a reference while preparing the form booklet.

Next, fill out the forms as completely as they would be when processed by the department. However, before filling out the forms, give some thought to the desirability of having a continuity of reference within the forms. Select a work order that is short in content, yet sufficient to contain most source document references. When filling out forms, begin with the original construction budget, and continue cross referencing from form to form until you have the final entry of the same work order on the property record. This continuity becomes more difficult when dealing with forms that report units of property installed; however, some cross referencing is feasible, even at this point.

Forms used in the preparation of special reports must stand on their own merit, and very little continuity or cross referencing is possible.

When forms are filled out in their entirety, little space remains for notes directing the reader from form to form. To overcome this space shortage, I place a description sheet after each form giving a brief, but complete, history of each form on a preprinted format which automatically requests that the same questions be asked about each form. Before this standard format was prepared, many questions were asked of company management as to what they wished to know about any and all forms.

This inquiry resolved the format into the following:

1. Form name and number.
2. Prepared by.
3. Information source.
4. Purpose.
5. Cross reference.
6. Working copies to.
7. Property records department file maintained by.
8. Term of retention.

Use of the standard format permits the reader to anticipate what information he can expect to learn about each

form in the booklet. The cross reference permits him to go from section to section as cross references are made.

Because some forms are printed on both sides, the forms were mounted on a narrow strip of "stickum" type paper (one and one-half inches by 11 inches) double-punched for a three-ring binder, which when folded over and moistened became a sort of hinge which will hold the form securely. This permits the form to be seen on both sides, fully separated from the instruction sheet that describes its use.

The forms were next set up in a booklet which was sectionalized, indexed and cross referenced. Permanent numbering of pages was avoided in order that the booklet could be expanded or shortened as required.

The result was that we were able to gather easily five copies of forms. One was usable as a work copy. The other four sets were typed, and carbon copies were used when possible. Two typed sets were prepared to satisfy occasional requests of A. G. A. Plant Accounting and Property Records Committee mem-

bers. The work copy and two typed copies were for use in our office.

Probably the greatest advantage resulting from these booklets is that it enables us to explain all phases of our plant accounting record-keeping system on a moment's notice. Such a booklet has many other advantages, and its preparation is well worth the effort. It is possible for each division in a company to prepare a similar booklet, and the result will be a clearer understanding of your purpose and a wholesale elimination of forms no longer needed.

Facts and Figures

(Continued from page 15)

1958—which occurred despite the lower househeating and industrial demands for gas resulting from the warmer weather experienced throughout most of the country—was due primarily to the greater number of new gas customers being served by the industry.

Sales of gas for industrial use increased from 2,952,000,000 therms to 3,156,000,000 therms, a 6.9 per cent increase over 1958. Industrial production, as measured by the Federal Reserve Board index, was up 10.8 per cent over February 1958. The index of industrial production (1947-1949 = 100) for February 1959 was 144, up 14 points above the same month in 1958.

A. G. A.'s index of gas utility and pipeline sales was 267.8 (1947-

1949 = 100).

During the 12 months ended February 1959, total utility and pipeline sales of gas aggregated 81,398,000,-

000 therms, equivalent to an increase of 4.2 per cent over the 78,113,000,000 therms consumed in the 12 months ended February 1958.

'Never Leak' method

(Continued from page 18)

This allows sufficient time for the moisture in the liquid to evaporate and provide a solid seal before it is subjected to several pounds of pressure.

If we applied the higher pressure immediately, the wet material in a number of joints might not resist the pressure, and, therefore, a path of leakage might be established. In one job it has been possible to seal 4,880 feet of main all in one operation by using two 2,000-gallon supply tank trucks.

In adopting this type of operation, one naturally wishes to have some assurance of the permanence of the sealing operation. While we have already established

the fact that every job has been reduced to zero leakage at the end of the sealing operation, it is important to know what can be expected to happen in the future. The answer to this question has been sought in the following ways:

Chemical tests were made to determine whether natural gas, its components and odorizer, have any deteriorating effect on the cured material which forms the seal in the joint. The results of these tests were completely reassuring. Mechanically speaking, because of the resilience of the seal, it will withstand the effects of vibration or other movement. It will protect the jute from further deterioration from the effects of gas.

To obtain some practical experience on the subject of permanence, we have

taken two locations (Figs. 4 and 5), one for low pressure and one for medium pressure, where we have dead end mains without services. We sealed them by this method, and then installed meters in manholes, built for the purpose, in the connection between these dead end mains and the rest of the system. This was done in order to register the loss of gas, if any, on sealed mains. To date, both of these installations, one approximately two years old and one approximately one year old, have revealed no loss of gas. These measurements will, of course, be continued in the future.

The areas sealed by this method have been surveyed by infra-red leak detection equipment, and the results obtained are tabulated in Table D.

GAS INDUSTRY INCOME STATEMENT

(MILLIONS OF DOLLARS)

(REFERS TO ALL DISTRIBUTING UTILITIES AND PIPELINE COMPANIES)

	TOTAL INDUSTRY			NATURAL GAS		
	Twelve Months Ended Dec. 31 1958	Twelve Months Ended Dec. 31 1957	Per Cent Change	Twelve Months Ended Dec. 31 1958	Twelve Months Ended Dec. 31 1957	Per Cent Change
Total operating revenues	\$7,142	\$6,413	+11.4	\$6,760	\$6,070	+11.4
Operating expenses—operations	4,556	4,104	+11.0	4,341	3,883	+11.8
Operating expenses—maintenance	286	234	+22.2	235	215	+9.3
Total operating expenses	4,842	4,338	+11.6	4,576	4,098	+11.7
Depreciation, retirements, depletion, amortization, etc.	502	442	+13.6	480	424	+13.2
Federal income taxes	514	464	+10.8	481	436	+10.3
All other taxes	365	329	+10.9	349	313	+11.5
Total taxes	879	793	+10.8	830	749	+10.8
Total operating revenue deductions	6,223	5,573	+11.7	5,886	5,271	+11.7
Net operating revenues	919	840	+9.4	874	799	+9.4
Other income	113	82	+37.8	111	81	+37.0
Gross income	1,032	922	+11.9	985	880	+11.9
Interest on long-term debt	327	268	+22.0	319	261	+22.2
Other income deductions	(13)	7	—	(8)	4	—
Total income deductions	314	275	+14.2	311	265	+17.4
Net income	718	647	+11.0	674	615	+9.6

Supply men study industry methods



General Management Conference speakers included A. H. Cannon (l.) and Roy Groves



Donald H. Lyons addressed the luncheon meeting

Gas industry practices in the field of purchasing and stores were discussed at the Purchasing and Stores Committee's annual conference at Cleveland, from March 2-4. The conference was held in conjunction with the A. G. A. General Management Section conference.

This annual event brings together representatives of the purchasing and stores executives participated throughout the United States and Canada. It is the only meeting of its kind concerned exclusively with specific gas industry problems.

An innovation was the round-table discussion on March 3. Some 80 purchasing and stores executives participated. Two tables were chaired by R. J. Brodell, storekeeper general, Iowa-Illinois Gas and Electric Co., and H. C. Hankins, general storekeeper, Southern Union Gas Co. Topics covered problems of purchasing and stores within the gas industry.

The method of free discussion was

also utilized by the guest speaker, D. H. Lyons, director of purchasing, Johns-Manville Corp., at a Tuesday luncheon session. Dr. Lyons defined his topic, "Creative Purchasing in a Rapidly Changing Economy," as "a daily application of the fundamental principles and practices of procurement by a group of independent, dedicated and inspired people."

Six subcommittee reports and special presentations were packed into the March 2 meeting. The committee chairman, A. H. Cannon, supervisor of stores, Transcontinental Gas Pipe Line Corp., opened the meeting, then introduced Roy Groves, assistant manager, purchasing and stores, Oklahoma Natural Gas Co.

Mr. Groves, a former committee chairman and the committee member with the longest continuous membership, gave a brief history of the committee's accomplishments since its formation within the Accounting Section many years ago. The committee be-

came a part of the General Management Section six years ago. Mr. Groves pointed out that the committee had earned its way through the years by the initiation of methods and practices that are now taken for granted within the gas industry.

A perennial topic is the protection, storage and handling of material, particularly pipe and fittings. Under the chairmanship of H. E. Wade, general storekeeper, The Peoples Gas Light and Coke Co., four papers were presented.

Mr. Wade spoke on the storage, handling and use of plastic pipe—a material that is being used with increasing frequency within the gas industry. He discussed the steps taken by his company to assure adherence to the rigid specifications that have been set up for plastic pipe and the sleeves used to join sections. Mr. Wade said that his company's use of plastic pipe since its introduction in 1952 has nearly doubled. Some 352,000 feet

of pipe were issued in 1958.

Mr. Cannon described the use of written procedures for protection and storage of materials. He stressed both the importance of keeping in stock any item of material likely to be needed during an emergency, and of assuring that each item is in a satisfactory condition to be used. Mr. Cannon divided materials into three categories for storage purposes—materials that may be exposed to outside weather, those which must be covered separately if stored outside, and those which must be kept inside. He gave detailed lists of each category, and suggested some standard methods of inspection that will assure readiness for use.

Proper identification of stored pipe and fittings was discussed by V. C. Parkes, assistant purchasing agent, El Paso Natural Gas Co. Mr. Parkes presented a detailed account of how each piece of pipe or each fitting is identified, stored, and recorded from the time it is received in the warehouse until it is disbursed for a job.

Another paper was "Compilation of an Over-All Stock Catalog" by J. G. Hopkins, Jr., purchasing agent, New Jersey Natural Gas Co. He detailed codes and descriptions for each item in inventory that use either addressograph plates or punch cards. Mr. Hopkins enlivened his presentation with a number of suggestions for "shortcuts" and practical ideas gained from his own experiences.

A method of disposing of surplus materials by interchange of information among A. G. A. member companies was proposed by a subcommittee headed by David L. Sherer, stores supervisor, Mississippi Valley Gas Co. Encouraged by the success of previous attempts to exchange lists of surplus materials among companies represented on the Purchasing and Stores Committee, Mr. Sherer presented a plan for the exchange of information on a wider basis. The exchange would be limited to the availability of surplus pipe, valves, welded fittings and flanges, and malleable fittings.

Under the proposal, each company with surplus material would reproduce copies of a prepared form in sufficient quantity to be distributed to each A. G. A. member company. Negotiations between any prospective purchaser and the seller would be han-



R. J. Brodell (center, rear) conducted a round-table discussion on purchasing and stores



Another General Management Conference round-table discussion was led by H. C. Hankins

dled directly by the companies concerned.

H. D. Dusenberre, chairman of the Standardization Subcommittee, reported on the activities of his group within the field. Members of the Purchasing and Stores Committee are appointed as liaison members of Operating Section committees concerned with various standardization projects. They also initiate standardization procedures of particular interest to the purchasing and stores function.

Ten additional material handling bulletins have been issued since the past conference, it was reported by Fred McCarroll, stores section supervisor, Texas Eastern Transmission Co. This service keeps the gas industry purchasing and stores community in-

formed of material handling equipment and labor saving devices that are developed mainly by member companies. Mr. McCarroll brought up to date the complete list of bulletins issued since the subcommittee's formation in 1953.

Several papers are available for general distribution. They are the A. G. A. Purchasing and Stores Committee, a Brief History; Standardization Subcommittee Report; Material Handling Subcommittee Report; Disposition of Surplus Material Subcommittee Report; and Protection, Storage and Handling of Material and Compilation of an Over-All Stock Catalog.

Copies may be obtained by writing to Order and Billing Department, A. G. A. Headquarters.

Vancouver

(Continued from page 9)

leased its findings on them.

During the past two years, the company has made several selective changes, all of which have resulted in both rate reduction and an enhancement of the company's competitive position in specific markets. About one and one-half years ago, a special heating rate for boarding houses and apartment houses was introduced; a few months ago, this rate was made applicable to all commercial accounts.

At the same time, the minima on the large volume rate were reduced 50 per cent, and this development, in turn, equaled a rate reduction for a number of customers who did not qualify previously for this rate.

Still another change made during this period was the change in the interruptible rate.

- The recognition by management that in order for natural gas to become a significant contributor to the company's long-term earnings, the gas distribution system would have to be extended.

The company realized that it would have to be willing and able to serve a prospective customer when and where he wanted natural gas, even if such service meant a sacrifice of immediate earnings. It also realized that the prospect for a continuation of the inflationary spiral would involve higher capital costs for later main extensions. As a result, the company established a liberal main extension policy. It designated as "green areas" places where load growth prospects seemed good. The entire city of Vancouver became one of these "green areas." Under this policy, any applicant residing in a "green area," even if he was located a considerable distance from the nearest existing main, was automatically assured of service.

In addition, the company contacted prospects along the route of the proposed main extension in order to try to obtain all other possible business.

The company's liberal policy also included the introduction of natural gas to a large number of additional communities, including West Vancouver, Richmond, Port Moody, Coquitlam, and most of the Fraser Valley.

Nowadays, natural gas—instead of

merely being concentrated in and around Vancouver—is available as far away from Vancouver as Hope, which is 90 miles east of the metropolitan area.

The company's construction program has been a major undertaking. In 1958 alone, 340 miles of main were installed. The gas system, which included only 717 miles of main in 1955, had been expanded by the end of 1958 to include 1,888 miles of main. The company plans further construction and expansion during 1959. It is estimated that about 90 per cent of the homes in Metropolitan Vancouver and about 50 per cent of the homes in the rapidly growing Fraser Valley are now on, or within economic reach of, gas mains. The company also estimates that it has some 100,000 potential gas customers—over and above its 8,000 present gas customers—in both of these areas.

- The heavy reliance on both an active sales and promotion campaign, with emphasis on direct customer contacts, and the support of an enthusiastic trade.

British Columbia Electric does not sell appliances, but it does encourage prospective customers to obtain gas heating estimates and furnace size recommendations from its own personnel. As a result, the company employs 24 field men in Metropolitan Vancouver and 20 men in the Fraser Valley. These men devote most or all of their time to residential sales promotion.

These men made 17,000 individual residential gas heating presentations in 1959, and 5,500 such presentations in 1958. After such presentations, all prospects were forwarded to dealers on an exclusive basis for 10 days. During that time, the dealers were expected to report the results of their calls. Subsequent checks have indicated favorable action by nearly 75 per cent of all prospects within six months of initial presentation.

A unique series of tables and graphs has been developed to enable the company's non-technical field men to complete their calculations and to make their presentations—for all but the complicated cases—in just one visit. This method has proved to be the single most useful device in the company's concentrated gas promotion campaign.

The company reports that between 25 per cent and 35 per cent of the existing homes in its communities became natural gas customers within two years after the installation of gas mains where no such mains had been before. Gas furnaces are now capturing about 90 per cent of the heating market in both replacements and new construction.

- The prevalence of a large number of homes still utilizing non-automatic heating fuels, such as coal, wood, sawdust and stove oil.

These homes have offered a splendid potential market for natural gas. Prior to the advent of natural gas, other automatic fuels had been whittling away at this section of the residential market. In the last three years, however, the sales effectiveness of these fuels has almost vanished in the wake of the gas.

- The company's excellent relations with manufacturers, distributors and dealers.

This good will resulted in a tremendous enthusiasm in the manufacturers, distributors and dealers for handling, displaying and selling gas equipment when gas became a reality. Among the most aggressive gas heating dealers in the area were—and still are—the department stores, which featured installed package prices.

- The company's training program.

Almost as soon as the Pacific Northwest Pipeline project was approved, the company started sponsoring a series of training classes for licensed fitters and installers. This program, which is still in effect, will probably be a continuing activity.

- An exemplary safety record.

There has been no accidental gas fatality in the more than two years since the completion of the conversion to natural gas.

The "Vancouver Story" is not complete. During the next few years a sequel will be written, because the projections for the future are as ambitious as have been the accomplishments of the past. This sequel will tell not only the story of the company's expansion, but also the story of the profitability of that expansion. Some 90,000 residential gas heating accounts are projected by Dec. 31, 1961. A peak day send-out (firm) of 1,253,960 therms is projected by the winter of 1961-62.

*Record total of 300 delegates attend
Sales Conference on Industrial and Commercial Gas*

To sell gas, know your customer

More than 300 delegates, a record total, attended the 1959 A. G. A. Sales Conference on Industrial and Commercial Gas. The highlight of the three-day meeting was the General Session on April 8. The conference was held at Philadelphia's Hotel Warwick from April 7-9.

Milton I. Allen, vice-president, sales, Philadelphia Electric Co., opened the general session by welcoming the delegates to the "City of Brotherly Love." Mr. Allen said that the most important job of industrial and commercial representatives is that of selling gas. Because the recession is over now, and, as a result, selling is more difficult, he said, it is particularly necessary for today's salesmen to know customers' problems in order to sell intelligently.

Mr. Allen suggested that salesmen gather all the available new ideas about marketing and then apply them to selling. He concluded by saying that production capacity was far ahead of sales and that only aggressive selling could raise sales totals.

The next speaker was Charles G. Simpson, vice-president and general manager, Philadelphia Gas Works Division, The United Gas Improvement Co. Mr. Simpson invited the delegates to visit his company's offices and showrooms while in Philadelphia and to attend a dinner that evening (April 8). He also invited the ladies to take a specially planned bus tour of historic spots in the city and Valley Forge.

Philadelphia Electric and Philadelphia Gas Works were the host companies for the conference.

During the general session, a paper on the "Techniques of Direct Mail Selling" was presented by L. J. Fretwell, di-



F. Thompson Brooks (second from left), chairman of the Industrial and Commercial Gas Section, welcomes (l. to r.) I. S. Anoff, Milton I. Allen and Charles G. Simpson to the conference

rector, commercial and air conditioning sales, Oklahoma Natural Gas Co. The paper, which took the form of a proposed Industrial and Commercial Information Letter, covered direct mail usage.

Mr. Fretwell said that direct mail is a method of "keeping in touch with your old customers, making special offers or announcements, and promoting business during slack seasons. Direct mail is the medium that gets the highest degree of individual attention because there are no competitive advertisements contained in your sales letter."

Mr. Fretwell emphasized that direct mail selling is only as good as the mailing list. "Mailing lists have a very bad habit of growing old fast," he said; "they therefore should be carefully checked periodically."

Next on the program was I. S. Anoff, chairman, executive committee, Food

Service Equipment Industry, Inc., Chicago.

Throughout his talk which was entitled "We Must Keep Pace," Mr. Anoff stressed dealer cooperation. "It is to be hoped that in these days, and those ahead," he said, "we will continue to work together so you can continue to get your share of the available business in areas according to your reasonable competitive business."

Mr. Anoff also discussed the activities of the Food Facilities Engineering Society, the International Society of Food Service Consultants, and the food facilities courses at several universities.

"I have tried to make clear," he concluded, "the fact that dealer cooperation is a two-way street, that the dealer and gas utility should travel hand in hand. Let us not look at just a piece of equipment in planning a kitchen. Let us look at the entire installation, so that we can co-



New members of the Industrial and Commercial Hall of Flame—(l. to r.): R. N. Spear, F. S. Pexton, Harold Massey, Richard Keating, E. V. Bowyer—receive scrolls



Delegates to the 1959 Sales Conference on Industrial and Commercial Gas view the displays supplied by various industrial and commercial equipment manufacturers



C. Longstreet, Minneapolis-Honeywell Regulator Co., demonstrates ultra-violet sensing device



Norman Van Brocklin, quarterback for the Philadelphia Eagles, was the main luncheon speaker



Everett V. K. Schutt receives the GAMA Award of Merit from E. J. Funk, Jr. (l.) and Alvin M. Stock (r.)

operate as to investment, labor, and production costs to help our customers toward a successful operation."

At the conclusion of the morning session of the general session, Harold Massey, managing director, Gas Appliance Manufacturers Association, presented the GAMA PEP Prize Contest Awards. Engraved plaques were presented to Small, Medium and Large gas utilities in several categories.

Recognized for achieving highest dollar sales per meter were Medium, United Gas Improvement Co., Harrisburg, Pa.; and Large, Laclede Gas Co., St. Louis, Mo.

Honored for greatest improvement in PEP Campaign participation were Medium, The Bridgeport Gas Co., Bridgeport, Conn., and Large, Oklahoma Natural Gas Co., Tulsa.

Cited for excellence in general promotional activities were Medium, Provi-

dence Gas Co., Providence, R. I.; and Large, Southern California Gas Co. and Southern Counties Gas Co., both of Los Angeles.

Winners of the grand award for best implementation and over-all performance in the 1958 PEP Campaign were Small, Roanoke Gas Co., Roanoke, Va.; Medium, The Gas Co. Division of Scranton-Spring Brook Water Service Co., Wilkes-Barre, Pa.; and Large, The Ohio Fuel Gas Co., Columbus.

In addition, certificates were presented to six new members of the Hall of Flame. The total membership of the Hall of Flame is now 191. The six new members are E. V. Bowyer, sales manager, Roanoke Gas Co.; Fred H. Groen, Jr., vice-president, Groen Manufacturing Co., Chicago; Richard T. Keating, managing director, Keating of Chicago, Inc.; Mr. Massey; Frank S. Pexton, industrial supervisor, The Gas Service Co., Kansas

City, Mo.; and R. N. Spear, general commercial sales manager, Ruud Manufacturing Co., Kalamazoo, Mich.

Another presentation during the general session was that of the GAMA Merit Award to Everett V. K. Schutt of Central Hudson Gas and Electric Corp., Newburgh, N. Y., by Alvin M. Stock, chairman, industrial award committee, and E. J. Funk, Jr., chairman, industrial gas equipment division, both of GAMA.

The citation to Mr. Schutt read, in part: "The latest exemplification of his ingenuity and imagination is his inauguration of the open symposium, in which textile manufacturers, equipment manufacturers, and gas utility personnel are afforded an opportunity to discuss improved processing through the use of gas fuel. Two such meetings have already been held and a third is well in preparation. In his unostentatious manner, he has exerted a profound influence

Harold Massey (l.) presents the GAMA PEP awards to (l. to r.) T. Z. Dunn, Ohio Fuel; E. V. Bowyer, Roanoke Gas; J. N. Betz, The Gas Co.; J. F. McCarthy, Providence Gas; Art Couse, Southern California Gas; L. J. Fretwell, Oklahoma Natural; F. J. Peterson, Bridgeport Gas; George Walters, Harrisburg Gas; M. A. MacClurg, Laclede Gas



Among the featured speakers during the general session were (l. to r.) Fred A. Kaiser, Harold S. Walker, Jr., and Charles E. Zeigler



Participants during commercial day included (l. to r.) C. C. Hanthorn, Robert H. Combs and Robert M. Wilson



Some of the principal speakers during the commercial day were (l. to r.) N. E. ... F.

upon the industry. His efforts have become nationally recognized, and have served as a pattern for many other A. G. A. and industry committees."

The guest speaker at the general session's main luncheon was Norman Van Brocklin, quarterback of the Philadelphia Eagles Football Club. Mr. Van Brocklin related some amusing anecdotes about football games and about what goes on during huddles. He also traced the history of professional football from its origin to its present position as a major sporting attraction.

"People Are Important" said Fred A. Kaiser, vice-president and general sales manager, Michigan Consolidated Gas Co., who opened the afternoon section of the general session.

"Many years ago," he said, "a leading industrialist made a statement—'The public be damned.' This short sentence was grabbed by newspapermen and featured until the American public came

to believe it as an authentic attitude of big business. Forward looking business leaders realized that it was imperative that this distorted image be changed, and also that people would change to a favorable attitude once business could get its true story before the public. Thus was the new profession of public relations born."

Mr. Kaiser also said that "More and more companies are insisting that their executives and qualified personnel participate in public programs at local, state and even national levels. Gas utilities recognize the importance of such public relation programs and I believe any company can put a Speakers and Program Bureau into operation at a minimum cost. In every community," he added, "there are a great number of clubs, associations, and societies at which a suitable program can be presented for the members."

Mr. Kaiser noted that many com-

panies have had great success with speakers bureaus, and that employees are generally more than willing to participate in the programs.

In conclusion, Mr. Kaiser said that "American business today recognizes the importance of people. It recognizes that it is important to build in the mind of the public a company image that impresses upon the people that the company is a good neighbor and a good citizen. Therefore, any program which builds in the mind of the public a favorable image of a company is important. It makes selling easier. People are important. It is a great deal easier to do business with people who like you than it is with people who know nothing about you or who may even dislike you."

Next on the agenda was a discussion of the techniques of group selling and a detailed description of the Section's Textile Symposium by Charles E. Ziegler, executive vice-president, Public

Service Co. of North Carolina.

"Group selling," said Mr. Ziegler, "is not a new approach, but we have found it to be one of the most effective methods of bringing the gas industry closer to a major customer. The textile industry is one of the largest industries in the United States: it is in the \$4 billion range, and it employs more than a million people. The greatest opportunity for profitable sales of gas in processing textiles is for drying purposes," he added.

Mr. Ziegler described the efforts of the committee in group selling to the

dustrial and commercial gas and its 140,000 or so customers. Without industrial and commercial gas, residential rates would be in orbit. Just how important is this load to gas companies? This usage accounts for an awful lot of gas—64 per cent of the total send-out—and it brings in 41 per cent of the revenue."

Mr. Walker explained that "there is twice . . . as much revenue per dollar investment from industrial and commercial gas as from residential gas," and that "commercial gas accounts for only 9 per cent of the send-out but brings in 12½ per cent of the revenue. Commercial gas

the necessity of the market survey in formulating intelligent selling programs. He also described how to conduct a market study by presenting a sample study and an explanation of the use of the data obtained from the study.

The place of the consulting engineer in commercial gas activities was discussed by John R. McKinley, executive director, A. Ernest D'Ambly, Philadelphia. Mr. McKinley said that a gas company should make every effort to become acquainted with the architects and engineers in its territory, and that it would be advantageous to a company to



Principal speakers during the sales conference's industrial day were (l. to r.) H. L. F. Crouse and Richard J. Ruff



Other featured speakers during industrial day were (l. to r.) W. H. Holcroft, Richard L. Lang and W. R. Van Ittersum



Speakers during commercial gas day included (l. to r.) John R. McKinley, Roman I. Pijanowski and W. S. Sims

textile industry. These efforts included "a symposium held in a location with a large concentration of the textile industry, an attractively printed program, an extensive invitation list, pre-meeting publicity in trade publications, and local personal follow-ups of invitations."

The costs to the companies which sponsored the symposium were very low, Mr. Ziegler said. He added that "two companies in our service area were directly influenced to purchase many thousands of dollars of gas-processing equipment as a direct result of attendance by their engineers at this meeting."

The significance of the industrial and commercial load in the operation of a gas utility was discussed by Harold S. Walker, Jr., assistant to the managing director, A. G. A. Mr. Walker's talk was entitled "The Bread and Butter Boys."

"Every executive knows," Mr. Walker said, "that the gas industry would not amount to much if it were not for in-

is one of the best and most profitable loads we have."

Mr. Walker also discussed both the PEP Campaign and the Hi-Load Water Heating Campaign. He suggested to the delegates that they consider these campaigns seriously. Gas utilities, he said, have everything to gain and nothing to lose by entering these campaigns and by using A. G. A. materials. Our success as an industry, he concluded, will depend upon how strongly we can impress our customers that gas and gas equipment are the finest, most modern investments money can buy.

At the end of the general session day, there was a Manufacturers' Friendship Room and a formal dinner with entertainment.

Commercial Gas Day (April 7) was opened with a talk by Roman L. Pijanowski, sales promotion and advertising manager, The Peoples Natural Gas Co., Pittsburgh. Mr. Pijanowski emphasized

assign one man to make frequent calls on these specialists.

Mr. McKinley suggested that utilities throughout the country have available data on different operating costs with a simplified method of determining local variations. "Consulting engineers," he said, "have a great admiration for A. G. A. and its affiliated utility companies. Because of your efforts over the years, you have made our job easier by giving us a refined and controlled product for better designs."

James F. McCarthy, commercial sales manager, Providence Gas Co., discussed the activities which must precede actual sales. "You can have the best product, furnish the best service, be the nicest guy in town," he said, "but if that product or service is not advertised, if you do not have a program of planned promotion, you might just as well forget the product and service and go to the rocking chair."

In these days of intense competition,

Mr. McCarthy said, gas company representatives must get places first with the most. Some of the "places" to which he referred were public projects, hospitals, institutions, schools, and other mass feeding operations where approval has to come from committees or boards.

Leg work, Mr. McCarthy said, is all-important in becoming acquainted with architects, consultants, engineers, and institutional dieticians. "They like people to call on them. You will never know how they like you unless you try and find out."

In a further discussion of marketing, Don Nichols, Ahrens Publishing Co., New York, considered the value and details of a coordinated program of promotion, advertising and sales. Mr. Nichols enumerated 16 points which, he said, make a complete marketing package for a rounded-out sales program—a program which makes the best use of all available materials and media.

A talk on air conditioning was given by Robert M. Wilson, manager, large tonnage division, Arkla Air Conditioning Corp., Little Rock. Mr. Wilson discussed Arkla's 3-5 and 25-ton package equipment.

He also mentioned larger tonnage equipment which was either on the drawing board or in field test installations. Several changes in design are already being put into effect, he said, and the company will soon have a self-contained unit in the upper tonnage range.

A sales program—including sales and service policies—for commercial gas air conditioning was discussed by Robert H. Combs, air conditioning representative, Oklahoma Natural Gas Co. Mr. Combs said that "the market potential is almost unlimited and the demands and acceptance of air conditioning are continuing to grow and increase."

Mr. Combs also presented a five-point outline for setting up a sales program: (1) analyze the potential in your local areas; (2) sell your analysis to your top management and set a realistic goal; (3) develop a yearly plan, including advertising and promotion budgets, for attaining this goal; (4) be sure of good design, installation, and service of adequate equipment; and (5) use a satisfied customer to get additional sales.

Mr. Combs suggested a five-year program for a 350,000-meter utility, and noted the tonnage which should be added each year. "This is but one ap-

proach and one program that is successfully 'load conditioning with air conditioning,'" he concluded, emphasizing that each company should develop its own such program.

Walter Robertson, vice-president, Keating of Chicago, spoke about displays and demonstrations at national trade shows, the value and cost of exhibiting at these shows, and methods for increasing booth attendance. He also considered the amount of sales pressure which should be exerted at these shows.

On Industrial Gas Day (April 9), W. R. Van Ittersum, sales manager, John J. Fannon Products Co., Detroit, talked about the many newly developed uses for Schwank infra-red burners in industrial processing.

In the next presentation, Ray West, industrial manager, Minneapolis-Honeywell Regulator Co., Philadelphia, showed to the delegates a new ultra-violet flame sensing device which, it is claimed, is foolproof.

This device, Mr. West explained, differs from other safety "eyes" in that it is sensitive only to ultra-violet, and is in no way affected by hot or radiant refractories. He noted that, in conjunction with this new device, the company has also developed a relay checking system which continuously proves the circuit, and, in case of a failure in any of the components, shuts off the main gas valve.

Richard L. Lang, district industrial sales manager, The Ohio Fuel Gas Co., discussed the extra business which might result in an industrial plant if industrial gas engineers were to make some diligent observations.

Mr. Lang said that the growing need for in-plant feeding offers a good load through commercial cooking equipment. Another good load, he said, is hot water, particularly in summer when the heating boilers are shut down. A third good load, he added, is incineration. More and more authorities are concerned with air pollution, he explained, and proper industrial incineration to meet the requirements of air pollution codes is another

use for gas. A fourth load, he continued, is infra-red heating in large areas where spot heating will add to worker comfort.

Mr. Lang concluded by saying that "a trained industrial sales organization which is capable of using the tools of our trade, and which will make a real effort to uncover and acquire these 'bonus' loads can make a tremendous extra contribution to its company's industrial sales and earnings. Never be satisfied just to get the load you went after. Insist on adding some of this 'bonus' business to every project you tackle."

"Future Markets for Gas" was the subject of an address given by W. H. Holcroft, president, Holcroft and Co., Detroit. Mr. Holcroft forecast both the role which gas will play in increasing the country's gross national product and the greater share which industrial sales will have in gas utility operations.

Richard J. Ruff, president, Catalytic Combustion Corp., Detroit, described how many objectionable waste fumes and solids from industrial operations can be incinerated by heat and a catalyst into harmless CO₂ and nitrogen before being exhausted to outside air.

This process, he said, is both another form of air pollution control and an excellent gas load.

Industrial air conditioning was discussed by N. S. Stake, Middle Atlantic commercial sales manager, Minneapolis-Honeywell. He considered the over-all costs of air conditioning systems on the basis of square feet of building space.

Mr. Stake pointed out that a very small percentage—less than 2 per cent—of increased worker efficiency would more than pay for an entire system installation. Mr. Stake closed by asking how an enterprising plant could afford to be without air conditioning and its many benefits.

Last on the program was an explanation of the proposed GAMA Plant Tour Program, in which 21 members have already agreed to cooperate.

During the conference, 11 industrial and commercial gas equipment manufacturers maintained attractive displays.

Stockholders back merger of Brooklyn firms

STOCKHOLDERS OF THE BROOKLYN Union Gas Co. and Brooklyn Borough Gas Co. have approved the consolidation of the two companies.

The continuing company will be Brooklyn Union Gas, which will serve all of Brooklyn and Staten Island and a substantial portion of Queens.

The terms of the merger provide for the exchange of 150,000 shares of Brooklyn Union Gas common stock for 200,000 shares of Brooklyn Borough Gas stock.

The consolidation must now receive the approval of the Public Service Commission. A hearing on the merger was held before the commission on March 18, 1959.

*Four days of solid study conducted
by 1,150 distribution men at annual conference*

Section 'gets down to brass tacks'

Getting down to brass tacks might have been the unannounced theme of the 1959 Operating Section Distribution Conference held in Cincinnati from April 6-9.

The four days of sessions on gas company operating problems were devoted to technical lectures, discussions, and work, and excluded many of the usual convention frills.

This solid menu evidently was the proper fare for the practical operating men of the gas industry, because some 1,150 delegates—more than had been expected—crowded the conference halls.

The conference was opened on Monday, April 6, by Michael Anuskiewicz, Jr., Distribution Committee vice-chairman, who welcomed the delegates to the first general session. Mr. Anuskiewicz substituted for D. W. True, chairman, who was ill. E. S. Fields, president, The Cincinnati Gas and Electric Co.—the host company—also greeted the delegates.

A report on Section activities was delivered by J. T. Innis, Section vice-chairman, who also presented committee service awards to the four individuals who had served in 1958 as chairmen of the committees which were sponsoring the conference. The recipients were R. C. Holcombe, Distribution Committee; W. B. Haas, Automotive and Mobile Equipment Committee; C. L. Woody, Corrosion Committee; and D. L. Drake, Customer Service Committee. The awards were presented by Mr. Innis for V. F. Bittner, Section chairman in 1958.

The first conference speaker was Professor D. A. Weaver of Purdue University.

Drawing examples from his experience with the Motor Fleet Training Pro-



Among the general session speakers at the Distribution Conference were (l. to r.) Arthur Ehrnschwender, E. S. Fields, J. T. Innis, D. A. Weaver, Michael Anuskiewicz, Jr.



Other speakers at the Operating Section conference's general session were (l. to r.) C. A. Erickson, Jr., P. B. Tarman, L. C. Rohrer, G. G. Dye and W. J. Kretschmer



Some 500 delegates viewed the exhibit and demonstration of automotive and mobile equipment used in the gas and electric industries. More than 30 companies displayed 100 trucks, trailers, tractors, trenchers, and aerial ladders and platforms.



gram at Purdue, Professor Weaver stressed the importance of driver training programs in gas company operations. He pointed out that few company vehicle drivers are hired as such; rather, they are usually men who are hired for other duties, and who do driving as an incidental task. Therefore, it cannot be assumed, he said, that such men possess the necessary driving skills. As a result, he added, training is essential.

Professor Weaver reminded fleet operators of both the desirability of physical check-ups for drivers and the necessity for rechecking licenses. He cited cases where, in the absence of such checks, men whose driving licenses had been suspended continued to drive company vehicles.

The keynote speech of the conference was delivered by T. Spencer Shore, president, Eagle-Picher Co., Cincinnati. Mr. Shore's topic was "Philosophy for Business."

Three points stressed by Mr. Shore were the priority of the profit motive,

the importance of employee selection, and the desirability of civic activity.

It is both surprising and distressing to a businessman, Mr. Shore said, to discover how many employees in business, including even those on the professional level, fail to see that their work must always be judged in terms of its contribution to profits for the company. He urged that companies educate all employees about the importance of making a profit, and suggested that companies provide employees with information on corporate earnings or losses.

Touching on employee selection, Mr. Shore said that he believed in the "top third of the class" philosophy. He was not referring to academic records, he said, but rather to job qualifications of applicants. It is a mistake to hire the first qualified applicant who presents himself, he said. Instead, an effort should always be made to hire the best obtainable prospect.

Mr. Shore said that another surprising discovery which he had made was that

civic activity makes better employees. He urged companies to encourage community activity among personnel, and said that such participation is good public relations for the company.

In conclusion, Mr. Shore stated his conviction that it was time for business concerns to become more active in politics. If business holds certain beliefs, he said, it should be willing to come out and state them. The fear of alienating a possible fraction of customers, he concluded, should no longer be allowed to prevent business from upholding sincere political principles.

On Monday afternoon, a combined outdoor exhibition of new gas and electric operating equipment attracted some 500 delegates. The equipment demonstrated included new types of trenchers, pavement breakers, and service trucks, and a spectacular assortment of cranes.

Speakers during the Tuesday general session were J. H. Betty, Laclede Gas Co.; T. J. Miller, Michigan Consoli-

dated Gas Co.; G. G. Wilson, Institute of Gas Technology; and G. J. Sandusky, Southern California Gas Co. P. W. Kraemer, chairman, Customer Service Committee, presided.

Mr. Betty, whose talk was entitled "Picture Your Problems," extolled the usefulness of photography in conveying information on technical problems to personnel. A dense communications barrier exists, he said, when an attempt is made to describe three-dimensional objects and situations in words, and especially when such communication must pass through several levels before reaching the man in the field. Photographs have been found to be an ideal method of cutting through these difficulties, he added.

Mr. Sandusky, who spoke on "The Rubber Yardstick," applied this term to the prevailing lack of rigidity and exactness in meter construction and repair standards. Automation in repair plants, he said, would go a long way toward both firming up standards and achieving operating economies.

Mr. Miller's topic was "When Should Compression Joints Be Reinforced?"

Mr. Wilson gave an "Evaluation of Current Practices in the Detection, Repair and Prevention of Gas Leaks," in which he described new and improved

methods of leak detection.

At the final general session on Wednesday, C. A. Erickson, Jr., chairman, Corrosion Committee, presided. The speakers and subjects were G. G. Dye, Southern California Gas, "Training and Testing Distribution Welders"; P. B. Tarman, Institute of Gas Technology, "Research on Soil Adsorption of Odorants"; L. C. Rohret, Middle West Service Co., "Factors Affecting Unaccounted-for Gas," the final report of a task group of which he was chairman; and W. J. Kretschmer, Columbia Gas System Service Corp., "Cadwelding Requirements," a report on progress of a task group of which he is chairman.

Of the special meetings convened to consider specific operating areas, the largest number was devoted to the Joint A. G. A.—EEI Automotive and Mobile Equipment Sessions. Three morning and three afternoon meetings covered mobile equipment demonstrations and a wide range of vehicle operation, safety, and fleet maintenance problems.

During the Tuesday morning Automotive and Mobile Equipment session, H. L. Smith, fleet safety consultant, Ford Division, Ford Motor Co., spoke on "Training Your Eyes for Expert Driving."

Mr. Smith said that drivers can be

grouped as follows: 3 per cent who are expert, and who may drive a lifetime without an accident; 1 per cent who are habitual offenders and who cause 15 per cent of all accidents; and 96 per cent who are average and who cause 85 per cent of all accidents.

Mr. Smith's suggestions for expert seeing were (1) aim high on steering, (2) get the big picture, (3) keep your eyes moving, (4) leave yourself an out, and (5) make sure the other person sees you.

Other speakers and their subjects in the Automotive and Mobile Equipment sessions included, on Tuesday morning, W. C. Edmundson, Delco-Remy Division, General Motors Corp., "New Developments in Performance and Durability"; R. N. Papich, safety consultant, A. G. A., report on the A. G. A. Accident Prevention Committee Vehicle Safety Contest; and R. W. Wagner, Chelsea Products, Inc., "Power Take-off Application on Heavy Duty Automatic Truck Transmissions." W. B. Streitle, chairman, EEI Transportation Committee, presided.

On Tuesday afternoon, the program was devoted to two panel discussions. The panel on "Small Cars—Domestic—Foreign—Electric" included R. M. Cregar, Public Service Electric and Gas Co.;



Featured speakers at the conference's corrosion session included (l. to r.) C. A. Erickson, Jr., W. T. Luttrell, J. W. McAmis, H. C. Boone and Andrew Kellogg

Metering speakers were (l. to r., front) T. F. Larche and G. H. Schmitt, Jr.; (rear) Andrew Lovretin, Jr., L. C. Baldacci, Jr., F. J. Frederick, R. L. Jones, C. J. Sevey



Participants in the distribution design and development session were (l. to r.) E. F. Trunk, R. J. Maccardini, Jr., M. L. Bock, H. C. Missimer, Jr., B. E. Hun

Among the speakers at the general session were (l. to r., front) P. W. Kraemer and T. J. Miller; (l. to r., rear) J. H. Betty, G. G. Wilson and G. J. Sandusky



Some of the speakers during the customer service session of the Operating Section's 1959 Distribution Conference were (l. to r.) J. H. Dennis, Joseph L. Joachim, Robert W. Bell, E. L. Vervoort and M. J. Belensky



Speakers at the construction and maintenance session were (l. to r.) Leonard Orlando, Jr., D. K. Traverse, D. A. Cozzens, H. C. Stebbins, B. F. Harris, Jr., C. P. Xenis, D. R. MacCollum and C. R. Newling



Linn Edsall, Philadelphia Electric Co.; G. E. Fink, Consolidated Edison Co. of New York, Inc.; and H. M. Serviss, Long Island Lighting Co.

The panel on "Company Vs. Outside Garage and Decentralization" was made up of H. L. Allen, Florida Power and Light Co.; A. E. Dible, Equitable Gas Co.; H. R. Murphy, The Peoples Gas Light and Coke Co.; and F. E. Raglin, Public Service Co. of Colorado.

Arthur W. Stewart, vice-chairman, A. G. A. Automotive and Mobile Equipment Committee, presided.

On Wednesday morning, speakers included P. C. Mortenson, Vickers, Inc., Division of Sperry Rand Corp., and M. C. Alves, Union Electric Co. Mr. Haas, Northern Natural Gas Co., presided.

Wednesday afternoon speakers were Mr. Stewart, Columbia Gas System Service Corp.; Edwin C. Swenson, D. W. Onan and Sons, Inc.; and A. C. Ebersole, Kurland Motors. K. G. Scantling, vice-

chairman, EEI Transportation Committee, presided.

On Thursday morning, A. R. Ehrnschwender, chairman, A. G. A. Automotive and Mobile Equipment Committee, and Mr. Streitle presided jointly during both the reports of subcommittees and an open forum.

Metering sessions were presided over by Andrew Lovretin, Jr., and Fred Peters, chairman and vice-chairman, respectively, Metering Subcommittee.

Speakers on Monday were R. L. Jones, Michigan Consolidated Gas; C. J. Sevey, Southern California Gas; T. F. Larche, Mississippi Valley Gas Co.; G. H. Schmitt, Jr., New Orleans Public Service, Inc.; F. J. Frederick, Long Island Lighting; L. C. Baldacci, Jr., Peoples Gas Light and Coke; and E. C. Hemes, Vulcan Rubber Products Division.

On Wednesday, Metering speakers were Fred Peters, New York State Electric and Gas Corp.; James Webb, Consolidated Edison; Mr. Lovretin; and Gil-

bert Estill, Oklahoma Natural Gas Co., who served as open forum moderator.

Construction and Maintenance Sessions were presided over by D. R. MacCollum, chairman, and R. W. Alexander, vice-chairman, Subcommittee on Construction and Maintenance.

Participants on Monday were C. R. Newlin, New Orleans Public Service; C. P. Xenis, Consolidated Edison; and a panel composed of B. F. Harris, Jr., Baltimore Gas and Electric Co.; D. A. Cozzens, Long Island Lighting; Leonard Orlando, Jr., Philadelphia Gas Works; H. C. Stebbins, The Brooklyn Union Gas Co.; and D. K. Traverse, Southern California Gas.

Speakers on Wednesday were P. C. Hoy, Dayton Power and Light Co.; and Harry G. Kaess, Minneapolis Gas Co., forum moderator.

A Corrosion session was presided over by Mr. Erickson, chairman, Corrosion Committee. Panel speakers were H. C. Boone, Peoples Gas Light and

Coke; Andrew Kellogg, Niagara Mohawk Power Corp.; W. T. Luttrell, Texas Eastern Transmission Corp.; and J. W. McAmis, Washington Gas Light Co.

Customer Service sessions were presided over by Mr. Kraemer, chairman, and J. H. Dennis, vice-chairman, Customer Service Committee.

Speakers were G. K. Bachmann, Public Service Electric and Gas; J. W. Vance, The Peoples Natural Gas Co.; C. F. Miller, Iowa-Illinois Gas and Electric Co.; H. W. Scott, A. G. A. Laboratories; R. F. Ogborn, Southern

California Gas; John MacLarty, Rochester Gas and Electric Corp.; Robert W. Bell, Metropolitan Utilities District; M. J. Belensky, Philadelphia Gas Works; Joseph L. Joachim, Michigan Consolidated Gas; and E. L. Vervoort, Brooklyn Union Gas.

Distribution Design and Development sessions were presided over by B. E. Hunt, chairman, and J. S. Janssen, vice-chairman, Subcommittee on Distribution Design and Development.

Participants on Tuesday were M. F. Hall, Ebasco Services, Inc.; E. A. Skibinski, Rochester Gas and Electric; and a

panel composed of H. C. Missimer, Jr., Philadelphia Gas Works, moderator; M. L. Bock, Consumers Power Co.; R. J. Maccardini, Jr.; and E. F. Trunk, Laclede Gas.

Thursday participants were J. H. Anderson, Minneapolis Gas; Howard J. Evans, Rockwell Manufacturing Co.; and a panel composed of K. J. Stanton, Northern Illinois Gas Co., moderator; A. E. Mignone, Arthur D. Little Co. (representing American Meter Co.); and T. C. Schroeder, Union Switch and Signal Division, Westinghouse Air Brake Co.

Operating Section's 'Proceedings' soon to be available

THE Operating Section *Proceedings*, a compilation of the technical papers presented at the Section's 1959 conferences, will be available later this year at \$10 per copy.

Individual sets of papers will be available to subscribers as each set becomes available. The Distribution Conference papers, now in print, will be mailed immediately. The Transmission Conference and Production Conference papers will be available following those meetings.

The following Distribution Conference papers may be ordered individually, for 25 cents each, from the A. G. A. Order Department in New York City:

- Selecting, Training and Testing Distribution Welders, by G. G. Dye.
- Cost-imating for Distribution Construction, by James H. Anderson.

- Daily Workload Forecasting and Manpower Planning, by Michael J. Belensky.
- A Gas Distribution Valve Maintenance Program, by Clifton R. Newlin.
- The Star Salesman—The Serviceman, by John MacLarty.
- Electrical Power on the Go, by Edwin C. Swenson and George Burda.
- Good Customer Service Starts with Order Taking, by E. L. Vervoort.
- The Hidden Helper, by Robert W. Bell.
- Effect of Rate of Flow on Meter Proof, by R. L. Jones and C. J. Sevey.
- Application and Operation of the Plug Valve Regulator, by Howard J. Evans.
- Recent Trends in Meter Maintenance Practices, by F. J. Frederick.
- Training and Up-grading Street Department Personnel, by D. A. Cozzens.

- Automatic Data Acquisition and Logging for Gas Dispatching, by T. C. Schroeder.
- Final Report of Task Group on Factors Affecting Unaccounted-for Gas, by L. C. Rohret.
- The Sizing of Domestic Types of Meters to Known Gas Loads at Low Pressure, by T. F. Larche.
- Status Report of Index of Distribution Standards, by M. F. Hall.
- Picture Your Problems, by John H. Betty.
- Bibliography on Gas Meters and Metering, 1956-57 Supplement, by James Webb.
- Report of Task Committee on Standardization of Meter Purchase Specifications, by James Webb.
- Power Take-off Application on Heavy Duty Automatic Truck Transmission, by R. W. Wagner.

Michigan Wisconsin Pipe Line contracts for Canadian gas

MICHIGAN WISCONSIN PIPE LINE CO. has signed a contract with Midwestern Gas Transmission Co. for the purchase of 158 million cubic feet of gas daily. The gas will be imported from Canada into the United States by Trans-Canada Pipe Lines, Ltd.

The contract is now subject to approval by the Federal Power Commission, which must give permission for both the importation of the Canadian gas and the construction of some \$95 million in facilities by Michigan Wisconsin Pipe Line and Midwestern Gas Transmission.

The agreement also requires that Trans-Canada Pipe Lines obtain the approval of Canadian authorities for the exportation of the gas.

The contract provides for the initial importation of about 200 million cubic feet of gas daily by Midwestern Gas Transmission. The gas will be delivered by Trans-Canada Pipe Lines at a point on the United States-Canadian border directly south of Winnipeg. From there, Midwestern Gas Transmission will construct approximately 500 miles of

24-inch diameter pipeline to central Wisconsin, where the gas will be delivered to Michigan Wisconsin Pipe Line near the town of Marshfield.

Communities along the route of Midwestern Gas Transmission's line will be supplied with gas by that company.

Michigan Wisconsin Pipe Line will construct a pipeline system from Marshfield to a connection with its existing pipeline facilities. These facilities now extend north to Green Bay, Wis. The total construction by Michigan Wisconsin Pipe Line will cost about \$41 million.

The additional supplies of gas to the company will supplement the gas which it now receives from Texas, Oklahoma and Louisiana. The gas will enable the pipeline to extend service to its existing customers, facilitate service to 29 communities in northern and central Wisconsin which do not now have natural gas, and extend its facilities into the western portion of the Upper Peninsula of Michigan. The gas in the Upper Peninsula will be used for both the processing of low

grade iron ore and service to a number of communities.

Ralph T. McElvenny, president of American Natural Gas Co., of which Michigan Wisconsin Pipe Line is a subsidiary, said that the new contract will enable Michigan Wisconsin Pipe Line to make the maximum use of its existing facilities for the purpose of providing Canadian gas at the lowest possible cost.

Under its contract with Trans-Canada Pipe Lines, Midwestern Gas Transmission has the right to purchase an additional 200 million cubic feet of gas per day when that gas becomes available for export to the United States.

The agreement between Michigan Wisconsin Pipe Line and Midwestern Gas Transmission provides that Michigan Wisconsin Pipe Line has the right to purchase approximately 75 per cent of this additional amount. Michigan Wisconsin Pipe Line also has the right to buy its proportionate share of all additional gas which Midwestern Gas Transmission imports from Canada.

Industry news

Court bars rebuilder of water heaters from using A.G.A. seal

THE UNITED STATES DISTRICT COURT in Los Angeles has permanently enjoined Arthur Crigler and his corporation, which is known as California Water Heater Service, from using the A. G. A. seal of approval on rebuilt appliances.

Mr. Crigler was the defendant in a suit in which A. G. A. charged unauthorized use of its "Blue Star" approval seal. The suit

charged that Mr. Crigler, a rebuilder of gas water heaters, allowed the seal—which had been affixed to the appliance by the original manufacturer—to remain on the heaters after they had been rebuilt.

A. G. A. contended that Mr. Crigler's action was in violation of the Association's policy which limits the use of the seal to new gas appliances conforming exactly to a prototype previously tested and approved by the A. G. A. Laboratories.

The court ruled that the seal is a registered certification mark belonging to A. G. A., and that the Association has exclusive rights to its use.

The court's injunction prohibits Mr. Crigler from rebuilding or selling any rebuilt gas appliances on which the A. G. A. seal has not been obliterated. In addition, Mr. Crigler and his corporation are specifically enjoined from affixing A. G. A. approval seals to such appliances under any circumstances.

The injunction also requires Mr. Crigler to account to A. G. A. for all rebuilt gas water heaters which have been sold with the seal intact, and for all heaters sold and represented as A. G. A.-approved.

The court awarded \$1,500 damages to A. G. A.

Research bulletin issued

METHODS FOR DETERMINING accurately the types and amounts of organic sulfur in utility and synthesis gases are presented in Research Bulletin No. 5, "Identification and Determination of Organic Sulfur in Utility Gases." The bulletin, a publication of the Institute of Gas Technology, in cooperation with A. G. A.'s Gas Production Research Committee, is by D. McA. Mason and Henry Hakewill, Jr., with A. E. S. Neumann as editor. The methods described in the bulletin have sufficient sensitivity to permit determination of sulfur compounds present in concentrations of less than one grain per 100 Cf of gas. The bulletin includes detailed drawings of special equipment designed for use with these methods.

Peoples Natural wins award

THE PEOPLES NATURAL GAS CO., for the sixth consecutive year, has earned first place among major utilities in a national safety competition sponsored by the National Safety Council. Peoples Natural Gas received a plaque for its low frequency rating of 2.14.

Texas Gas is listed on New York, Midwest, Pacific Coast exchanges

TEXAS GAS TRANSMISSION CORP. has been listed on the New York, Midwest and Pacific Coast stock exchanges. The company will be identified on all three trading floors by the symbol "TXG."

W. M. Elmer, president, Texas Gas Transmission, explained that the company had been considering listing for more than two years, and that the decision to list had been made because of the ultimate benefits for both the company and its shareholders.

"We are listing on the Midwest and Pacific

Coast stock exchanges not only for the benefit of our stock holders," said Mr. Elmer, "but also to express our appreciation to the many brokers who are members of these exchanges and who have supported Texas Gas Transmission actively on an over-the-counter basis."

Texas Gas Transmission, which has some 17,000 stockholders in the United States and abroad, has listed 3,000,214 shares. The company reported 1958 net earnings of \$6,874,000, or \$2.06 per share, on the 2,929,833 shares outstanding at the end of that year.

In a further explanation of the company's decision to list, Mr. Elmer said, "A wider market is foreseen as a result of these listings, since some institutions, investment funds, and endowment funds are limited by law or policy to investing only in securities listed on major exchanges."

In order to facilitate trading in the Midwest and on the Pacific Coast, the company has appointed Harris Trust and Savings Bank as co-transfer agent and The Northern Trust Co. as co-registrar in Chicago, and the Bank of America, National Trust and Savings Association, as co-transfer agent and American Trust Co. as co-registrar in San Francisco.

The Chemical Corn Exchange Bank and the Chase Manhattan Bank will continue as principal transfer agent and registrar, respectively, in New York. The Mercantile National Bank and the Republican National Bank of Dallas will continue as co-transfer agent and co-registrar, respectively, in Dallas.

Gas lights decorate Seattle museum grounds



Participants in the lamp-lighting ceremonies of the Seattle museum were (l. to r.) John Hefferman, American Meter Co., dressed as old-time policeman; and Messrs. Dehl, Linton, Clise (with hat), Shiefen, Sturkey (on ladder) and Draper

TWO AUTHENTIC 19th century gas lights and two modern gas lights have been presented to the Seattle Museum of History and Industry by Washington Natural Gas Co. The lights, which were installed recently on the grounds of the museum, symbolize the period from 1874-1901. During these years, Seattle's downtown streets were lighted with gas.

Special dedication ceremonies marked the installation of the lights.

Participants in the ceremonies included Charles Clise, vice-president of the Seattle Historical Society, who received the lights on behalf of the museum, and Charles M. Sturkey, president of Washington Natural Gas.

In addition, four retired employees of Washington Natural Gas assisted in the lamp-lighting ceremonies.

They were Ellsworth C. Dehl, senior fitter; Harold E. Linton, shop foreman; Frank L. Shiefen, senior fitter; and Dean Draper, customer service supervisor. All four were contemporary with the last few years of Seattle's gas light period.

Corrosion course to be held

MORE THAN 500 persons are expected to attend the fourth annual Appalachian Underground Corrosion Short Course, which will be held from June 2-4 at West Virginia University, Morgantown, W. Va. The keynote address will be delivered by Dr. Hugh P. Godard of Aluminum Laboratories, Ltd. Dr. Godard is president of the National Association of Corrosion Engineers. Twenty-eight new classes are being given at this year's session, which will offer a total of 64 classes. Two past presidents of the association will be among the instructors of the short course. They are Dr. W. F. Fair, Jr., of Koppers Co., Inc., and L. L. Whitenack of Plioflex, Inc.

Northern Natural explains underground storage with animated display

AN ANIMATED DISPLAY which uses gas for dramatic effect is helping Northern Natural Gas Co. tell the story of its underground storage project to people in the Northern Plains region.

The display, a creation of the company's public relations department, was unveiled at the recent convention of the Midwest Gas Association in Des Moines, Iowa.

A series of animated sequences explains the underground storage project and tells something about both the source of Northern Natural's gas supply and the market served by the company. The story is narrated individually to each viewer over a telephone, while the animated display illustrates the explanation.

The display, which is about seven feet high, is finished in blue and coral formica. Its center panel is a cutaway drawing of the company's underground storage site at Redfield, Iowa. The drawing shows the different rock strata and the reservoir in which the gas is stored. On one side of the center panel is a vertical row of four back-lighted transparencies of the facilities used at the storage site; on the other side is a map of Northern Natural's pipeline system.

The "brain" of the display is a double-track magnetic tape which synchronizes the voice of the narrator with the animation. The push of a button starts the tape, which runs through the entire animation sequence automatically.

When a viewer picks up one of the four telephone receivers attached to the front of the display and pushes the start button, he hears a voice say, "This is the story of a natural gas field being moved 700 miles closer to market. . . ."

The viewer's attention is then directed to the system map where background lighting illuminates the gas fields, to the market area, and to the underground storage site, as each is mentioned by the narrator. The story then moves to the picture panel and, as each facility



Northern Natural Gas Co.'s animated display includes a cutaway drawing (center) of the underground storage structure at Redfield, Iowa, a panel of four back-lighted transparencies (l.) of the storage facilities, and a map (r.) of the company's pipeline system. The story told by the animated drawings and photographs is narrated to each viewer via one of the attached telephone receivers

ity used in the storage process is mentioned, the appropriate picture lights up.

At the end of the animated sequence, the narrator directs the viewer's attention to the center panel, where a small gas flame springs to life to symbolize the company's service to its customers. On an automatic signal, the flame is snuffed out, and the gas which fueled the flame moves downward through a simulated well to displace water in the storage reservoir—much the same process as that in the company's underground structure near Redfield.

Specifications for the display were drawn up by the films and visual aids section of the company's public relations department. Much of the work on the model was done by Jud Hansen, visual aids designer.

Robert E. Adwers, supervisor, said that the display, which was constructed to conform with stringent safety regulations, has been inspected by fire officials and approved for showing in public buildings. The model will be available to Northern Natural's utility customers and to conventions and home shows.

Arkla offers ultra-violet air purifying attachment for air conditioners

ARKLA AIR CONDITIONING CORP. has announced the availability of a new ultra-violet air purifying attachment for its Arkla-Servel Sun Valley gas air conditioners. The attachment substantially reduces both the bacteria and the home odors present in the circulating air stream.

According to the company, this is the first time that built-in germ-removing and odor-removing features have been made available for residential gas central air conditioning systems.

The new device, which consists of two

tubular ultra-violet lamps and related equipment, will be optional on Arkla's 1959 model Sun Valley All-Year gas units. It is currently available in kits for ready installation on existing Sun Valley systems.

Arkla reports that extensive tests have shown that the attachment achieves a bacteria "kill" of about 75 per cent, approximately the purity of most outside air. In addition, the attachment removes odors, such as those caused by cooking and tobacco smoke.

The germ removal is accomplished by subjecting the circulated air to ultra-violet rays.

The process is similar to the methods used by hospitals, schools, factories and hotels for processing foods, drugs and pharmaceuticals.

Odor reduction is achieved by simultaneously producing ultra-violet rays of another wave length. These rays generate ozone and, by a chemical reaction, the minute but effective quantity of the ozone actually burns up the odors.

The purifying equipment in the Sun Valley is mounted in the blower section, where the circulated air receives maximum ultra-violet treatment.

General Electric designs gas turbine for peak utility loads

GENERAL ELECTRIC CO. has unveiled a new combustion gas turbine which, it says, will help electric utilities cut rising power production costs.

The new unit is rated capable of producing 20,500 kilowatts of electricity. It is designed specifically for peaking (large demands for

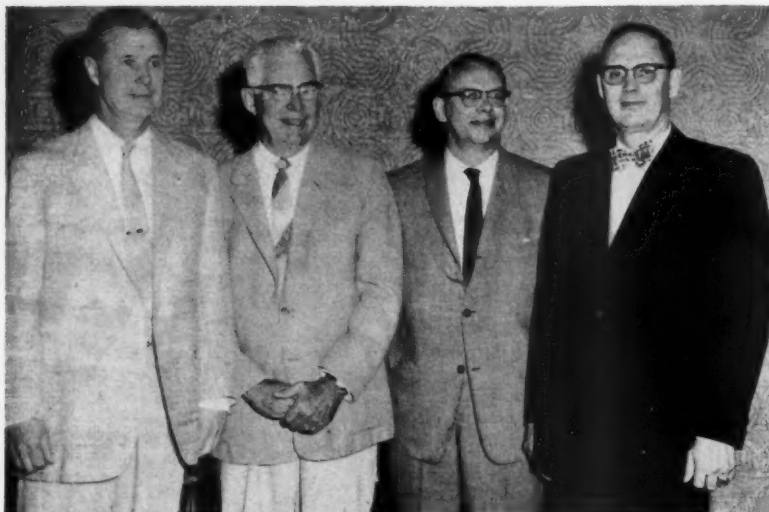
power for short periods of time).

C. W. Elston, general manager of General Electric's gas turbine department, likened the new turbine to a second car which is needed by a home owner for occasional use. "He (the home owner) certainly wouldn't buy a limousine for that short period of service,"

he said. "So, too, a low-cost, electric power-generating prime mover should be used by the utilities."

The turbine may be controlled remotely or operated on either natural gas or distillate oils. It can be housed in a building measuring 28 feet wide and 95 feet long.

Manufacturers invest over \$35 million in product development



The new officers of the Gas Appliance Manufacturers Association are (l. to r.) William G. Hamilton, Jr., second vice-president; Stanley H. Hobson, treasurer; Edward A. Norman, president; and Wendell C. Davis, first vice-president. They were elected during the group's annual convention

PREPARATIONS FOR MEETING the keen competition expected in the 1960's shared the spotlight with the present bright sales picture in discussions at the 24th annual convention of the Gas Appliance Manufacturers Association.

Emphasis during the meeting, which was attended by more than 300 delegates, was on promotion, product development, and upgrading in all product categories. The convention was held from April 1-3 at the Americana Hotel in Bal Harbour, Fla.

GAMA's new president, Edward A. Norman, president of Norman Products Co., estimated that manufacturers last year invested more than \$35 million in product development and improvement to keep up with the demands of a "nation of super-shoppers." In addition, he predicted that an equivalent amount may be spent this year on further upgrading.

Mr. Norman urged members of the industry to join forces in making known the scope of the gas appliance and equipment industry. He pointed out that the status of gas as the nation's fifth largest industry is because of public acceptance of both the acknowledged seven uses of gas in the home and the almost unlimited uses of gas equipment in industry and commerce. He also noted many new opportunities for successful diversification and market expansion.

Several convention speakers referred to the progress of the gas industry's Gold Star range program, and indicated the possibility of similar stress on the "top of the line" in other branches of the industry.

A Committee was appointed to study the possibilities of joint sponsorship by GAMA's househeating divisions of an advertising and promotional program to increase sales of gas heating equipment.

During the convention, Clifford V. Coons,

outgoing president of GAMA, and executive vice-president of Rheem Manufacturing Co., said that events of the first quarter of 1959 warranted a sharp upward revision of the industry's earlier forecast of 1959 business volume.

"It is now likely," Mr. Coons said, "that combined shipments of household, commercial and industrial gas equipment will top the 1958 total by nearly 15 per cent, instead of by the 9 per cent predicted last December."

Mr. Coons recalled that the industry was among the first to turn the recession corner. In the final quarter of 1958, he said, all but three of the industry's 22 product divisions showed gains ranging from 8 to 32 per cent. Moreover, he said, that pace has not only continued this year, but, in most respects, has also improved.

The 1959 officers, in addition to Mr. Norman, are Wendell C. Davis, president of Cribben and Sexton Co., first vice-president; William G. Hamilton, Jr., president of American Meter Co., second vice-president; and Stanley H. Hobson, board chairman of Geo. D. Roper Corp., treasurer.

The report of Harold Massey, GAMA's managing director, accounted for a "year of action, accomplishment and progress" in 1958.

"In summing up the year gone by," Mr. Massey said, "perhaps it can best be described as a typical decade squeezed into a 12-month period. It included dramatic promotions, technological advances, new advertising programs, hard-hitting public relations, increased market reporting, and improved relations with governmental agencies."

J. Theodore Wolfe, president of A. G. A., and president of Baltimore Gas and Electric Co., termed the industry well prepared to meet competitive threats with good equipment and a good fuel. He said that both

manufacturers and utilities were now in a good competitive position, but added that "this is certainly no time to relax."

Mr. Wolfe noted that gas has gained a bigger part of the total sales in the heating, water heating, and clothes dryer markets during the past decade, and that it has retained about a seven to five advantage over electricity in range sales. He described as "bright with promise" the gas refrigeration, air conditioning, and incineration fields; said that commercial sales generally were holding up; and reported that industrial sales have "really blossomed" through the close co-operation of gas utility utilization personnel and equipment manufacturers.

C. S. Stackpole, A. G. A.'s managing director, traced the Association's varied programs, many of which are in cooperation with manufacturers, to boost appliance and equipment sales. He told of the enthusiastic acceptance of the Gold Star program, noted the expectation of continued swift growth for gas lighting, and mentioned the special efforts to reach customers in such fields as hotel operation and textiles.

W. F. Devoe, manager of LP-Gas sales, Phillips Petroleum Co., and president of the National LP-Gas Council, described the council's broad advertising and public relations program, and explained how consumer surveys are used by the council to trace markets and gauge consumer opinion.

Richard N. Jones, sales director of *Home and Home* magazine, discussed the need for both a government financing policy and builder and consumer education, in order to facilitate the building of better quality housing.

He emphasized the "built for sale" market and pointed out that more than 80 per cent of all houses are now built for "unknown buyers." He stressed the importance of finding out more about those buyers.

W. H. Dalton, managing director of the Canadian Gas Association, talked about the appliance approval requirements for Canadian markets.

At the president's dinner, Mr. Norman presented GAMA Meritorious Service Awards to A. F. Craver, The Patrol Valve Co., 1958-59 chairman of GAMA's relief valve division; E. M. Douthat, Jr., Locke Stove Co., direct heating equipment division; E. J. Funk, Jr., The C. M. Kemp Manufacturing Co., industrial gas equipment division; Edward P. Hayes, The C. A. Olsen Manufacturing Co., gas furnace division; B. A. Johnson, Condensation Engineering Co., gas vent and chimney division; S. L. Kile, BASO, Inc., automatic controls division; T. B. Madole, South Bend Range Corp., hotel, restaurant, and commercial gas equipment division; and H. P. Mueller, Jr., Mueller Climatron, division of Worthington Corp., gas conversion burner division.

Other award recipients were Norman J. Reiff, The W. J. Schoenberger Co., gas valve division; Wayne H. Schutmaat, Penn Controls, Inc., gas appliance regulator division; E. T. Selif, Jr., Burnham Corp., gas boiler division; Thomas J. Watt, The Sprague Meter

Co., gas meter and regulator division; and John P. Wright, president, Geo. D. Roper Corp., domestic gas range division.

Elected to serve as division chairmen for the 1959-60 term were Fred E. Weldon, General Controls Co., automatic controls; F. H. Martin, Martin Stamping and Stove Co., direct heating equipment; A. B. Ritzen-thaler, The Tappan Co., domestic gas range; Frank Fiedler, Jr., Thermac Co., gas appliance regulator; W. W. Popyk, National-U. S. Radiator Corp., gas boiler; Harry Kane,

Whirlpool Corp., gas clothes dryer; and Charles Reichelderfer, Sundstrand Engineering Corp., gas conversion burner.

Others elected were E. W. Gettinger, American Furnace Co., gas furnace; Mr. Douthat, gas incinerator; Carey Wilson, Modine Manufacturing Co., gas unit heater and duct furnace; Howard Goss, Harper-Wyman Co., gas valve; Marvin L. Stark, Peerless Manufacturing Co., division of Dover Corp., gas wall and floor furnace; Harry Lasky, Pennsylvania Range Boiler Co., gas water heater;

Walter Davidson, Dravo Corp., heavy duty forced air heater; Robert C. LeMay, Selas Corp. of America, industrial gas equipment; E. N. Garrett, The Welsbach Corp., relief valve; and F. O. Suffron, Ameri Vent Division, American Metal Products Co., Inc., gas vent and chimney.

The 1959-60 officers of the gas engine compressor division, the gas refrigerator division, and the hotel, restaurant, and commercial gas equipment division have not yet been elected.

Arkla Air Conditioning buys Humphrey line of gas heaters

ARKLA AIR CONDITIONING CORP. has purchased outright the Humphrey line of gas heating equipment manufactured by General Gas Light Co., Kalamazoo, Mich.

The Humphrey line of gas heaters and furnaces, which will now be manufactured at Arkla's Evansville plant, will be continued and expanded in the company's appliance division.

According to W. R. Stephens, president of Arkla, the transaction included the "name, goodwill, patents, tools, dies, fixtures and inventory" of the Humphrey line. The purchase

price was not disclosed. The negotiations for the purchase were concluded by L. E. Walbridge, vice-president in charge of manufacturing for Arkla, and George Humphrey, chairman of the board of General Gas Light.

Because Arkla acquired a substantial inventory of products in the transaction, it will be able to make shipments to dealers and distributors without interruption during the transfer of manufacturing operations. Production is expected to begin soon at Evansville.

The Humphrey distribution system of utilities, dealers and manufacturers repre-

sentatives will be retained, said Mr. Stephens. Sales headquarters, however, he added, will be with those of the other Arkla industries at 812 Main Street in Little Rock.

Arkla will continue to manufacture the complete lines of Humphrey radiant fire heaters, room circulators, wall heaters, bathroom heaters, suspended unit heaters, duct furnaces, and residential central heating equipment.

General Gas Light will continue to manufacture and market its own lines of gas lights and pneumatic devices.

Oklahoma Natural Gas wins A. G. A. Safety Merit Award

OKLAHOMA NATURAL GAS CO. has received A. G. A.'s Safety Merit Award for 1,258,910 consecutive man-hours—worked by 1,970 company employees—without a disabling accident during the period from Oct. 22, 1958, to Feb. 15, 1959.

C. S. Stackpole, A. G. A. managing director, presented the award to H. A. Eddins, president, Oklahoma Natural Gas, at the annual convention of the Oklahoma Utilities Association held recently in Tulsa.

The certificate of award was signed by Mr. Stackpole, by J. Theodore Wolfe, A. G. A. president, and by Marvin B. Travis, chairman of A. G. A.'s Accident Prevention Committee.

W. Vance Smith, safety director of Oklahoma Natural Gas, said that the safety record is the result of consistent efforts of company employees and management to improve safe working habits and methods over a period

of many years. Mr. Smith heads a staff of six safety men who conduct safety meetings and classes throughout the Oklahoma Natural Gas system.

In 1958, Mr. Smith said, Oklahoma Natural Gas lost-time accidents numbered only one-half of those in 1957. In addition, the number of days lost through accidents in 1958 was only 23 per cent of those lost in 1957.

In accepting the award on behalf of the company, Mr. Eddins said, "We are indeed proud to have won this award; but vastly more important than the fine safety record we have established is the fact that by working safely our employees and their families have been spared from the physical suffering, mental anguish and the financial burdens which inevitably follow in the wake of disabling accidents."



C. S. Stackpole (r.), A. G. A. managing director, presents the Safety Merit Award to H. A. Eddins, president of Oklahoma Natural Gas Co.

A. G. A. announces new publications issued during April

ACCIDENT PREVENTION

• **How Inquiries to Gas Men Might Be Avoided**, Vol. 8, March 1959, Issue 1. One copy: free to A. G. A. members, 10 cents to non-members; 2-50 copies: 10 cents each to both members and non-members; 51-99 copies: seven cents each to members, 10 cents each to non-members; 100-500 copies: five cents each to members, 10 cents each to non-members.

• **Safety Siftings**, Vol. 4, March 1959, No. 1. One copy: free; thereafter, 10 cents each.

STATISTICS

• **Monthly Bulletin of Utility Gas Sales**,

February 1959. Free.

• **Proceedings of a Seminar on Consumer Surveys**, sponsored by A. G. A.'s Marketing Research Committee. \$5.

NEW FREEDOM

• **Teaching Guide . . . Modern Gas Appliances**. Reprint from *Forecast for Home Economists*. Four cents.

PREMIUMS

• **When You Want the Finest Range That Money Can Buy . . . Look for the Gold Star**. Gold Star Specification Leaflet. \$9.70 per thousand.

RESEARCH

• **Phase Relations of Gas Condensate Fluids**, Monograph 10, Vol. II (of two volumes), by C. Kenneth Eilerts and others. \$15.

COMMERCIAL PROMOTION

• **Commercial Kitchen Ventilation and the Effect of Cooking Appliances on Air Conditioning Design**, by Edgar Jahn. Reprint from *Air Conditioning, Heating and Ventilating*. 15 cents.

OPERATING

• **Proceedings and conference papers**. See Operating Section in this issue.

Austin Penn to head Maryland Utilities Association

AUSTIN E. PENN, executive vice-president, Baltimore Gas and Electric Co., was elected president of the Maryland Utilities Association at the group's annual business conference on April 10.

Mr. Penn succeeds Robert C. Carder, manager, Potomac Edison Co., who was elected a director.

Other new officers of the association are first vice-president, H. Holmes Vogel, vice-

president, The Chesapeake and Potomac Telephone Co.; second vice-president, Bruce P. Wilson, president, Baltimore and Annapolis Railroad Co.; treasurer, Raymond C. Brehaut, president, Frederick Gas Co., Inc.; and secretary, Frank J. Little, general staff supervisor, The Chesapeake and Potomac Telephone Co. of Maryland.

Other directors are Dale W. Barratt, president, Baltimore Transit Co.; Charles P. Crane,

chairman of the board, Baltimore Gas and Electric; George B. Daniel, president, Citizens Gas Co.; W. S. Moore, vice-president, Eastern Shore Public Service Co.; W. Griffin Morrel, vice-president, Chesapeake and Potomac Telephone Co. of Maryland; Otis H. Ritenour, vice-president, Washington Gas Light Co.; Thayer B. Seese, general manager, Conowingo Power Co.; and Robert W. Wilson, vice-president, Potomac Electric Power Co.

Underground storage course to be held in July

THE UNDERGROUND STORAGE of natural gas will be discussed during both an intensive summer course and a research conference at the University of Michigan in July. The course will run from July 6-15, the conference from July 16-17.

The course will be given by Dr. Donald L. Katz and Dr. M. Rasin Tek of the university's department of chemical and metallurgical engineering. Subjects on the agenda include properties of natural gas, static and flowing pressure gradients in wells, laminar and turbulent steady state flow in reservoirs,

unsteady state flow in reservoirs, aquifer behavior, and design of gas storage fields.

The conference will feature papers on such topics as aquifer behavior, location of gas water contacts, and the use of computers in reservoir and storage operations.

Further information about the course is available from Dr. Katz at the department of chemical and metallurgical engineering, 2028 East Engineering Building, University of Michigan, Ann Arbor, Mich. Details about the conference are available from Dr. Tek at the same address.

Kansas utility orders book

D.R. EDWARD G. NELSON, author, lecturer, and professor of economics at the University of Kansas, has been commissioned to write a history of The Kansas Power and Light Co. Dr. Nelson and two assistants have already begun a tour of most of the company's 27,500-square-mile service territory, where they are doing research and interviewing residents. Dr. Nelson is director of research at the Center for Research in Business at the university. His assistants are Charles Beck, instructor of electrical engineering, and Garry Hayes, a Ph.D. candidate.

A. G. A. issues study of gas-condensate fluids

A. G. A. HAS JUST PUBLISHED the second volume of Monograph 10, "Phase Relations of Gas-Condensate Fluids—Correlations of Test Results and Component Properties."

The 523-page book contains correlations of technical data obtained during 20 years of research conducted by the Bureau of Mines, United States Department of the Interior, in cooperation with A. G. A.

The new volume, the second of a series of two, includes 265 illustrations, 157

tables, and more than 190,000 words of text. Four of the seven chapters describe correlations of the phase diagram of gas-condensate fluids; the other three present correlations of the compressibility factor. Descriptions of techniques and features of special apparatus are also contained.

Vol. II of Monograph 10 can be obtained, at \$15 per copy, from the Order Department, A. G. A., 420 Lexington Avenue, New York 17, N. Y. Vol. I can be ordered, at \$10 per copy, from the same address.

Safety record set

A RECORD 1.5 million man-hours—seven and one-half years—without a disabling accident was achieved recently by Southern California Gas Co. meter shop employees.

In recognition of this achievement, the 89-man crew was given a special merit award at a recent dinner.

Under the direction of W. F. Connor, meter shop supervisor, the crew amassed a total of 1,579,312 man-hours without a lost-time injury. The record dates from the middle of 1951.

Metropolitan council discusses "Keeping Gas Out Front"



"Keeping Gas Out Front" was discussed at the 23rd annual meeting of the New York Metropolitan Gas Heating and Air Conditioning Council by (l. to r.) C. W. Meytrott, Louis J. Wagner, chairman of the council, G. F. Taubeneck, and K. T. Davis. The meeting was attended by some 300 delegates

THE 23RD ANNUAL MEETING of the New York Metropolitan Gas Heating and Air Conditioning Council, held recently, was attended by some 300 gas utility executives and sales personnel, and manufacturers and distributors representatives. The theme of the meeting was "Keeping Gas Out Front."

C. Wesley Meytrott, vice-president-sales, Consolidated Edison Co. of New York, Inc., delivered the meeting's keynote address.

Other speakers and their topics were George F. Taubeneck, editor and publisher, *Air Conditioning and Refrigeration News*, "Air Conditioning Can Be a Gasser"; Keith T. Davis, manager, gas air conditioning, Bryant Manufacturing Co., "A Manufacturer Reports Progress"; Frank Barmore, general sales manager, Roskin Distributors, Inc., "The Distributor—The Tie Between Manufacturer and Distributor"; and Arthur S. Goldman, director of marketing, *House and Home* magazine, "Cementing Gas Relations with the Building Industry."

Walworth sells fittings

WALWORTH CO., manufacturer of valves and fittings, has completed negotiations with Midwest Piping Co., Inc., for the manufacture of Walworth welding fittings. According to John Wallace, president of Walworth, Midwest Piping's welding fittings, which will complement Walworth's present lines of cast and malleable fittings, will be sold nationally through Walworth's offices and distributors. Among the products to be made for Walworth by Midwest Piping are elbows, reducers, tees, caps and laterals. All of these lines will comply with ASTM, ASA, ASME, government, and military requirements.

Tappan to boost output

THE TAPPAN CO. has announced an extensive \$3,700,000 plant expansion program. In order to meet increased demands, Tappan will expand total production capacity of both its Mansfield, Ohio, plant (by 30 per cent) and Murray Manufacturing Co., Murray, Ky., (by 50 per cent). The cost of the immediate phase of the program, which is scheduled for completion at the end of this year, is estimated at \$1,700,000. The entire expansion program will be completed in about two years.

Gold Star program presented to dealers



Raymond B. Cooper, A. G. A.'s Southern regional manager, describes the Gold Star gas range program to dealers attending a meeting of the Mo-Kan Blue Flame Gas Association. The association, a promotional organization composed of gas utilities, manufacturers and distributors, reported an attendance of nearly 800 retail appliance dealers at the meeting, held recently in Kansas City, Mo.

Texas Eastern Transmission Corp. drills new storage wells

TEXAS EASTERN TRANSMISSION CORP. has begun the construction of a facility expected to be the largest single underground storage reservoir for liquefied petroleum gas in the nation.

The site of the projected reservoir is at the center of the Barber's Hill Salt Dome, a giant underground deposit of pure salt, which is located on State Highway 146 near Mont Belvieu, about 25 miles east of Houston.

The first storage well, commonly known as a jug well, is being drilled to a total depth of about 3,500 feet, or about 2,500 feet into the salt.

Upon completion of this well, fresh water will be used to wash out a cavity in the salt which will eventually hold 21 million gallons of LP-Gas. A second jug well of the same capacity will be drilled later this summer.

In the fall, the two wells, which will

aggregate a storage capacity of 42 million gallons, will be used as an accumulation storage terminal for LP-Gas produced in the Texas Gulf Coast area and destined for shipment through Texas Eastern Transmission's Little Big Inch pipeline to midwestern and eastern markets.

This summer, the company will also construct a 12-inch pipeline to connect the Mont Belvieu terminal with the Little Big Inch pumping station at Baytown.

Institute of Gas Technology offers three summer courses

THREE COURSES IN NATURAL GAS technology will be offered this summer at the Institute of Gas Technology, Illinois Institute of Technology. Each of the courses will be a three-week session.

"Natural Gas Transmission" will be taught from June 15 to July 3. The course will deal with the behavior of gas, methods of transmission, and control of distribution systems.

"Natural Gas Distribution" will be given from July 6-24. It will cover design, construction, and maintenance of distribution systems.

"Natural Gas Fuel Utilization" will be offered from July 20 to August 7. The course will cover the fundamental theory of the combustion process, problems related to combustion systems, and applications relating to domestic and industrial use of gas as a fuel.

An individual may enroll in any or all of the courses. Each class is limited to about 30 students. All sessions will be held in the Institute of Gas Technology Building on the campus of the Illinois Institute of Technology.

Enrollment applications and further information are available from the chairman of the Education Program, Institute of Gas Technology, Technology Center, Chicago 16, Ill.

Northern Illinois Gas plans expansion of storage facilities

THE BILLIONTH CUBIC FOOT of natural gas was injected into Northern Illinois Gas Co.'s underground aquifer storage reservoir near Troy Grove, Ill., early in March.

Since last summer, the company has been pumping about five million cubic feet of natural gas per day into the porous sandstone structure as part of its testing and initial development program.

Plans are now under way for installation of facilities to increase the rate of injection this summer. These facilities will include a larger compressor and a new connecting line from Natural Gas Pipeline Co. of America's system five miles south of Troy Grove to the storage field.

Northern Illinois is presently contacting property owners in the area, in order to

secure right of way for the connecting main.

When these facilities are complete, the company will increase injection to about 25 million cubic feet per day. The company hopes to have about five billion cubic feet of gas in the reservoir by the end of 1959. If this goal is attained, withdrawal tests can be made next winter, and the project may be ready for operation in the winter of 1960-61.

Gas utilities issue annual reports of operations for 1958

THE FOLLOWING ARE CAPSULE REPORTS of the operations of a number of gas companies during 1958. The statistics have been gleaned from the companies' annual reports.

● **Boston Gas Co.** had total 1958 revenues of \$37,065,706, an increase from the 1957 revenues of \$33,414,471. Total expenses, including interest, in 1958 were \$34,999,010, above the 1957 total of \$31,630,675. Gas revenues in 1958 amounted to \$33,409,581, an 11.6 per cent increase over the 1957 total of \$29,944,058. Gas sales in 1958 totaled 174,061,000 therms, a gain of 26.5 per cent over the 1957 total sales. Net earnings in 1958 totaled \$2,066,696, higher than the 1957 earnings of \$1,783,796. Dividends totaled \$1,981,656 in both years.

● **Central Hudson Gas and Electric Corp.** reported 1958 gross revenues of \$31,880,259, higher than the total of \$29,861,655 recorded in 1957. Net income in 1958 amounted to \$4,203,892, an increase over 1957's total of \$4,014,355. Earnings per share in 1958 were \$1.17, 5 per cent higher than the 1957 earnings of \$1.11 per share. Gas revenues in 1958 totaled \$5,986,725, 14 per cent above 1957's figure of \$5,263,063. Gas sales in 1958 amounted to 2,955,780,000 cubic feet, 16 per cent higher than the total of 2,547,807,000 cubic feet in 1957. During 1958, the company spent \$20,086,000 for new construction.

● **Central Illinois Light Co.** had a total income of \$38,884,083 in 1958. This figure was 3.1 per cent higher than the total of \$37,702,449 reported in 1957. Net income, however, decreased \$132,443 from 1957 to 1958's total of \$5,263,140. Earnings available for common stock amounted to \$1.99 per share in 1958, compared to the \$2.05 per share in 1957 on a slightly fewer number of shares, following an adjustment for the company's two-for-one stock split in March 1958. Operating expenses in 1958 totaled \$20,453,822, a decrease of \$306,136 from 1957. The company spent \$19,345,210 for additions and improvements during 1958. Total gas revenues in 1958 were \$14,670,134, an increase of 4.8 per cent over the 1957 total of \$13,995,907. Gas sales in 1958 totaled 231,003,000 therms, an increase of 4,716,000 therms over 1957's total sales.

● **Citizens Gas and Coke Utility** reported a loss of \$464,953 for 1958, after charges of \$208,728 for amortization of gas conversion costs and \$627,415 for revenue bond retirement. In 1957, after similar charges, the company had a gain of \$1,414,810. According to the company's report, "the principal factor contributing to the decline in earnings was the poor coke market occasioned by the reduced operation in the foundry and steel industry." Gas sales showed another increase in 1958, when they totaled 17,512,000,000 cubic feet. In 1957, gas sales totaled 16,914,584,000 cubic feet.

Gas revenues in 1958 were \$12,104,612, higher than the \$11,640,236 reported in 1957.

● **Consolidated Edison Co. of New York, Inc.,** reported 1958 operating revenues of \$577,099,469, up from the 1957 revenues of \$552,668,962. Gross income in 1958 after such items as taxes, depreciation, maintenance, and operations was \$92,027,936, a rise from the 1957 gross income of \$82,660,232. Net income for 1958 was \$65,357,119, a gain from the 1957 net income of \$56,697,839. Earnings per share of common stock in 1958 were \$3.74, above the earnings of \$3.44 in 1957. In June 1958, the company raised the common stock dividend to an annual rate of \$2.80 per share. During 1958, the dividend paid per share was \$2.70, an increase of 30 cents per share over the 1957 dividend. Gas revenues in 1958 totaled \$89,530,000, an increase of 9.8 per cent over 1957. Plant expenditures during 1958 amounted to \$189 million.

● **Delaware Power and Light Co.** had operating revenues of \$50,161,000 in 1958, higher than the 1957 revenues of \$48,506,000. Total operating expenses in 1958 were \$39,517,000, slightly above the 1957 figure of \$39,262,000. Net income in 1958 was \$7,447,000, just above the \$7,202,000 reported in 1957. Earnings per share of common stock in 1958 were \$2.89, compared to \$2.77 per share in 1957. Gas revenues in 1958 were \$6,971,487, higher than the 1957 total of \$5,998,469. Total construction expenditures in 1958 were \$19,670,000.

● **Indiana Gas and Water Co., Inc.,** reported total 1958 operating revenues of \$19,811,606, an increase of \$1,676,717 (or 9.2 per cent) over 1957. Total operating expenses and taxes in 1958 were \$16,846,755, a rise of \$1,394,297 (or 9 per cent) over 1957. Net income in 1958 was \$2,354,042, higher than the 1957 net income of \$2,132,938. Earnings per share on common stock in 1958 were \$1.51 on 1,555,517 shares outstanding, a gain from the 1957 earnings of \$1.40 on 1,525,144 shares outstanding. Gas operating revenues in 1958 totaled \$18,214,722, a gain from the 1957 total of \$16,541,866. Sales of gas in 1958 totaled 27,201,819 Mcf, higher than the 1957 sales of 24,809,277 Mcf. During 1958, the company spent \$2,631,441 in gross additions to utility plant. This figure compares with \$3,168,306 spent in 1957.

● **Laclede Gas Co.** reported 1958 operating revenues of \$51,554,000, an increase over the 1957 total of \$45,600,000. Net income in 1958 was \$4,586,000, a rise from the 1957 figure of \$3,956,000. Earnings per share of common stock in 1958 were \$1.30, higher than \$1.16 earnings in 1957. Dividends per share of common stock in 1958 were 87½ cents, compared to the dividends of 80 cents per share in 1957. Gas sales in 1958 amounted to 659,236,000 therms, higher than the gas sales of 581,188,000

therms in 1957. During 1958, the company spent \$10,401,000 for construction.

● **Long Island Lighting Co.** had combined gas and electric revenues of \$121,960,000 in 1958. This total was 11 per cent above the 1957 revenues of \$109,862,000. Earnings per share of common stock in 1958 were \$1.62 on 7,472,000 average shares, higher than the 1957 earnings of \$1.44 per share on a smaller average number of shares. The dividend per share was \$1.20 in both years. Net income in 1958 was \$14,690,000, above the 1957 total of \$12,581,000. Operating expenses, exclusive of depreciation and taxes, were 10.3 per cent higher in 1958 than in 1957. The largest increase in expenses was attributable to taxes. The company spent \$45,210,000 for construction during 1958. Gas sales in 1958 amounted to 13 billion cubic feet.

● **Mountain Fuel Supply Co.** had a net income of \$3,438,800, or \$1.57 per share, in 1958, lower than the 1957 income of \$3,754,434, or \$1.72 per share. Dividends for 1958 amounted to \$1.20 per share. Gas revenues in 1958 were \$26,088,644, just above the 1957 total of \$25,160,075. Gas sales in 1958 amounted to 65,170,456 Mcf, just below the 1957 total of 67,853,946 Mcf. A provisional rate adjustment to allow an increase in revenue of about \$1 million annually was authorized on March 4, 1958, by the Utah Public Service Commission. This increase was designed to offset an increase of a like amount on the price of the gas bought by the company from Pacific Northwest Pipeline Corp. Gas expenses during 1958 were \$21,631,643, higher than the 1957 figure of \$20,954,649. The company spent \$6,068,903 for net plant additions during 1958.

● **Northern Indiana Public Service Co.** reported a net income of \$13,893,971 in 1958, just above the \$13,687,342 reported in 1957. The sale of 375,904 shares of common stock and the conversion of 72,219 shares of preference stock brought the company's total of common shares outstanding at the end of 1958 to 4,168,651. Earnings per share on this larger number of shares were \$2.77, compared to the \$3.03 earnings per share on the 3,720,528 shares outstanding at the end of 1957. Common stock dividends paid in 1958 amounted to \$2 per share. Operating revenues in 1958 were \$92,116,213, higher than the \$86,500,303 revenues in 1957. Operating expenses and taxes in 1958 amounted to \$75,360,205, above the 1957 total of \$70,049,879. The company spent \$39,134,000 for construction. Gas sales in 1958 totaled a record 500 million therms, a 6.1 per cent increase over 1957.

● **Pacific Lighting Corp.** had 1958 gross operating revenues of \$285,347,000, an increase of 19 per cent over the 1957 revenues. Operating expenses in 1958 totaled \$189,058,000, a 17 per cent rise from 1957

expenses. Net income in 1958 was \$24,238,000, higher than the 1957 net total of \$19,108,000. Earnings per share of common stock in 1958 amounted to \$3.03, above the 1957 earnings of \$2.42. Dividends per share of common stock in 1958 were \$2.20, an increase over the 1957 dividends of \$2. Total gas revenues in 1958 were \$282,819,000, a rise from the 1957 revenues of \$236,378,000. Expenditures for construction in 1958 totaled \$54,859,000.

● **Panhandle Eastern Pipe Line Co.** had earnings of \$2.74 per share for its common stock in 1958. The earnings were the same in 1957. Net income in 1958 was \$18,947,271, just above the \$18,843,793 reported in 1957. Operating revenues, which totaled \$120,731,337 in 1958, were at a new high. In 1957, operating revenues totaled \$117,141,403. Dividends per share of common stock continued at \$1.80. Total operating expenses and taxes in 1958 were \$101,712,783, an increase from the 1957 total of \$97,663,801. Gas sales for 1958 amounted to 411,562,000 Mcf, just below the 1957 total of 411,924,000 Mcf. Trunkline Gas Co., a subsidiary of Panhandle Eastern Pipe Line, reported operating revenues of \$36,270,463 for 1958. This figure compares to \$35,406,994 in revenues in 1957. Net income in 1958 was \$2,891,555, a decrease from the 1957 total of \$3,141,295. The decrease was attributable mainly to increased gas purchase costs, increased operating and labor costs, and gas production expenses. Dividends on common stock continued to amount to 75 cents per share in 1958.

● **Public Service Electric and Gas Co.** had a net income in 1958 of \$35,310,089, an increase of \$925,207 over 1957. Earnings per share of common stock in 1958 amounted to \$2.26 on an average of 12,209,233 shares. These figures compare to the 1957 totals of \$2.29 per share on an average of 11,836,448 shares. Operating revenues in 1958 were \$344,033,787. Of this total, \$114,999,863—an increase of more than 13 per cent over 1957, and a new record—was derived from gas operations. Operating revenue deductions in 1958 amounted to \$289,812,476, an increase of \$16,991,344 over 1957. Gas sales in 1958 totaled 718,821,532 therms, higher than the 1957 total by more than 15 per cent.

● **San Diego Gas and Electric Co.** reported 1958 total operating revenues of \$59,455,758, up 9.3 per cent from the 1957 total of \$54,417,247. Gas revenues in 1958 totaled \$17,745,072, an 8.2 per cent increase from the 1957 revenues of \$16,402,808. Total operating revenue deductions in 1958 were \$50,127,209, higher than the 1957 total of \$45,378,994 by 10.5 per cent. Net income in 1958 was \$6,611,801, up 1.3 per cent from the 1957 net income of \$6,527,353. Earnings per share of common stock in 1958, after payments of required dividends on cumulative preferred stock, amounted to \$1.32, compared to the earnings of \$1.38 in 1957. Dividends on common stock in 1958 totaled 98 cents per share, just above the 1957 dividends of 96 cents per share. Gross capital expenditures for plant, property

and equipment were \$25,234,081 in 1958. Total gas sales in 1958 were 19,305,093 Mcf, higher than the 1957 total of 18,883,517 Mcf.

● **Southern Indiana Gas and Electric Co.** had 1958 gross revenues of \$20,111,425, a new record, and an increase of \$999,196 (or 5.2 per cent) over the 1957 total. Gas revenues, which were 27.6 per cent of the total gross revenues in 1958, were \$5,557,823, an increase of \$581,144 (or 11.7 per cent) over 1957. Total gas sales in 1958 were 8,214,517,400 cubic feet, above the 1957 total by 954,872,900 cubic feet (or 13.2 per cent). Common stock earnings in 1958 amounted to \$2.42 per share on 996,363 shares. Common stock dividends in 1958 were \$1.60 per share. Net income in 1958 was \$2,885,588, higher than the 1957 figure of \$2,744,640. Operating and maintenance expenses for 1958 totaled \$9,535,103, an increase of \$529,915 (or 5.9 per cent) over 1957. The company spent \$3,726,278 for property additions and improvements during 1958.

● **Springfield Gas Light Co.** reported 1958 operating revenues of \$8,719,963, an increase of 12.7 per cent over the 1957 total of \$7,739,454. Total operating expenses in 1958 were \$7,649,279, higher than the 1957 figure of \$6,782,923. Net income in 1958 was \$787,269, above the 1957 total of \$722,695. Earnings per share of common stock in 1958 were \$3.67, higher than the 1957 earnings of \$3.37. Dividends per share in 1958 were \$2.70, just above the 1957 dividends of \$2.60. Total gas sales for 1958 were 4,825,771,000 cubic feet, higher than the 1957 sales of 4,191,368,000 cubic feet.

● **Tennessee Gas Transmission Co.** had a consolidated net income of \$46,423,609 in 1958. This total was 15 per cent higher than the corresponding figure in 1957. After provision for preferred stock dividends, earnings available for common stock were \$37,998,922, equal to \$1.84 per share on 20,690,177 shares outstanding at the end of 1958. In 1957, the earnings per share were \$1.60. Operating revenues totaled a record \$402,784,400, an 8 per cent gain over 1957. The gain was due primarily to increased sales of natural gas and crude oil. Gas sales in 1958 totaled about 714 billion cubic feet, a rise of nearly 6 per cent over 1957. During 1958, the company initiated a \$123 million gas transmission construction program.

● **Texas Eastern Transmission Corp.** had operating revenues in 1958 of \$266,497,244, an increase of 16 per cent over the \$229,042,712 reported in 1957. Consolidated net income for 1958 was \$25,619,912, higher than the 1957 total of \$24,918,376. Earnings per share of common stock in 1958 amounted to \$2.33 on 8,606,383 shares outstanding at the end of the year. These figures compare to the earnings of \$2.52 per share on 8,372,510 shares outstanding at the end of 1957. Total gas sales in 1958 were 605,158,437,000 cubic feet, higher than 1957's total of 548,068,248,000 cubic feet.

● **Texas Gas Transmission Corp.** reported 1958 consolidated net income, after federal income taxes, of \$6,874,000, equal after preferred dividends to \$2.06 per share of common stock on 2,929,833 shares outstanding. These figures compare to the 1957 earnings of \$6,124,000, or \$1.83 per share on 2,874,983 shares outstanding. Gross revenues for 1958 amounted to \$104.2 million, higher than the 1957 total of \$94.9 million. Gas sales for 1958 were 347 billion cubic feet, an increase of eight billion cubic feet over 1957.

● **Transcontinental Gas Pipe Line Corp.** had 1958 operating revenues of \$115,469,610, an increase of 19 per cent over the \$96,799,244 reported in 1957. Net income for 1958 was \$17,084,760, about 13 per cent more than the 1957 total of \$15,151,839. After preferred stock dividends of \$3,144,236, 1958 earnings available for common stock were \$1.40 per share on 9,953,842 shares outstanding at the end of the year. These figures compare to the 1957 earnings of \$1.27 per share. The dividend per share was \$1 in both years. Gas sales for resale, representing about 94 per cent of total operating revenues, increased \$18,876,238 (or 21 per cent) over 1957. Deliveries of gas in 1958, including gas transported for others, totaled 338.8 billion cubic feet, a 20 per cent increase over 1957.

● **Trans-Canada Pipe Lines, Ltd.,** had 1958 operating revenues of \$9,018,103, compared to the 1957 revenues of \$439,768. Gas revenues in 1958 totaled \$8,685,641, compared to the 1957 revenues of \$188,018. Operating expenses in 1958, however, accounted for a loss of \$749,354. As a result, the net loss for 1958 was \$48,343, and the deficit at the end of 1958 (based on figures carried over from the company's two previous years of operations) was \$85,429.

● **United Gas Corp.** reported total 1958 revenues of \$318,247,493, an increase from the 1957 total of \$300,563,888. Net income in 1958 was \$31,054,462, just below the 1957 figure of \$32,357,617. Earnings per share of common stock in 1958 were \$2.41, just under the 1957 earnings of \$2.51 in 1957. Dividends per share were \$1.50 in both years. Operating costs in 1958 were \$270,964,635, an increase from the 1957 total of \$253,077,730. Natural gas revenues in 1958 totaled \$267,977,794, higher than the total of \$246,072,740 in 1957. Gas sales in 1958 amounted to 1,304,191,018,000 cubic feet, an increase from the total sales of 1,272,259,458,000 cubic feet in 1957.

● **The United Gas Improvement Co.** had a net income of \$3,983,878, a rise from the 1957 total of \$3,155,975. Earnings per share of common stock in 1958 were \$3.15, an increase from the 1957 earnings of \$2.47. Dividends per share in 1958 were \$2.10, slightly higher than the \$2 dividends paid per share in 1957. Gross operating revenues in 1958 were \$33,561,457, an increase of 14.9 per cent over the 1957 revenues of \$29,219,205. Gas revenues (excluding Philadelphia Gas Works) in 1958 amounted to \$25,949,186, a rise of 19 per cent over the

1957 revenues of \$21,875,756. Operating expenses in 1958 were \$21,450,663, up 10 per cent over the 1957 total of \$19,468,442. Gas sales in 1958 totaled 173,655,853 therms, the highest in the company's history, and a 17 per cent increase over the 1957 sales of 148,199,947 therms. Philadelphia Gas Works had operating revenues in 1958 of \$63,705,000, a gain of 9.5 per cent over the 1957 revenues of \$58,169,000. Gas sales in 1958 totaled 541,886,000 therms, a rise of 8.8 per cent over the 1957 total of 497,943,000 therms. During 1958, United Gas Improvement's construction expenditures for all divisions (except Philadelphia Gas Works) totaled \$13,845,000.

● Washington Gas Light Co. reported 1958 operating revenues of \$59,786,200, above the 1957 revenues of \$50,816,700. Net income in 1958 was \$5,206,800, higher than the 1957 income of \$4,129,800. Earnings per share of common stock in 1958

amounted to \$3.37, an increase from the 1957 earnings of \$2.77. Dividends per share of common stock in 1958 were \$2.12, a rise from the 1957 dividends of \$2. Operating expenses in 1958 amounted to \$52,601,000, an increase of about 17 per cent over 1957 expenses. Total gas sales in 1958 were 434,616,600 therms, higher than the 1957 total of 379,307,900 therms. Gross additions to property, plant and equipment in 1958 were \$12,133,400.

● Washington Natural Gas Co. had total 1958 gas revenues of \$14,239,100, an increase of 28 per cent over the total 1957 revenues of \$11,106,900. Net income in 1958 was \$693,300, a record figure, and 93 per cent higher than the 1957 net income of \$359,500. Earnings per share of common stock in 1958 were 66 cents, a 74 per cent rise above the 1957 earnings of 38 cents. (The 1958 earnings were based on 1,043,085 shares at the end of the year; the 1957 earnings were

based on 943,085 shares at the end of that year adjusted to include the 1958 stock dividend.) Total gas sales in 1958 were 224,230,100 therms, a 28 per cent increase over the 1957 sales of 175,625,900 therms. During 1958, \$4,025,700 was spent for construction.

● Wisconsin Public Service Corp. reported gross operating revenues in 1958 of \$42,531,000, a 5 per cent increase from the 1957 revenues of \$40,490,000. Net income in 1958, after provision for preferred stock dividends, was \$4,944,000, a rise from the 1957 income of \$4,674,000. Earnings per share of common stock in 1958 were \$1.77, an increase from the 1957 earnings of \$1.68 per share. Construction expenditures during 1958 totaled \$14,700,000. Gas revenues in 1958 amounted to \$8,873,000, a gain from the 1957 revenues of \$7,849,000. Gas sales in 1958 totaled 8,200,000,000, an increase of 18.2 per cent over the 1957 sales.

A. O. Smith names contest winners

SEVEN REGIONAL WINNERS have been announced in the "Pictures for Profit" contest conducted recently by the Permagas Division of A. O. Smith Corp. Each of the winners was awarded \$250.

The contest was limited to distributor salesmen and gas company sales representatives. The purpose of the competition was to obtain case histories for use as sales promo-

tion tools for commercial water heaters.

The winners were W. A. Coger, Washington Natural Gas Co.; Charles A. Casey, Philadelphia Electric Co.; Charles H. Cass, The Hartford Gas Co.; J. C. Jeurink, Ward Terry and Co.; Ralph L. Henry, Gas Heat Distributors, Inc.; Don Marder, International Supply Co.; and Russ Gunther, Chicago Furnace Supply Co.

UGI buys LP-Gas company

THE UNITED GAS IMPROVEMENT CO., through Ugitte Gas, Inc., its subsidiary, has entered into an agreement to purchase the assets of Eastern Propane Co., Malvern, Pa.

Eastern Propane serves LP-gas in southeastern Pennsylvania, in York, Lock Haven and Lykens, Pa., and in Thurmont, Md. Ugitte will operate the company. Ugitte presently operates Ward Bottle Gas Co., which was purchased recently and which serves the Ephrata and Lancaster county area.

Arthur E. Bone, president of Eastern Propane, will become president and general manager of Ugitte.

Mr. Bone is president of the Liquefied Petroleum Gas Association of America. He is also a past president of the Pennsylvania Liquefied Petroleum Gas Association, and a member of both the Pennsylvania Gas Association and the Gas Unity Committee.

Michigan Gas Utilities Co. displays equipment



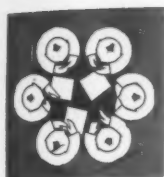
Michigan Gas Utilities Co. recently featured this display of cutaway equipment in its office windows. The company reported much public interest in the exhibit, which included cutaway regulators and meters, a typical service installation, and a comparison of an old wooden gas main and a modern steel gas main. The display, which was created and constructed by Donald C. Navarre, the company's advertising manager, was supplied with equipment by several manufacturing companies

Gas cooking demonstrated

EIGHT HUNDRED AND FIFTY brides and bridegrooms who attended sessions sponsored recently by the *New York Herald Tribune* watched food experts cook with ease on a modern gas range.

The experts, who used a demonstration table with built-in gas burners, urged the inexperienced cooks to try international dishes, and distributed recipes which emphasized the value of flexible heat for superlative cooking. The gas unit was supplied by the Gas Appliance Manufacturers Association.

Margaret Spader, GAMA's home service editor, included this advice in the newlywed's recipe folder: "New food products have 'antiquated' a large percentage of ranges in homes and apartments today. They pose a serious handicap for the neophyte in the kitchen. Many ovens cannot maintain the steady low temperatures so important for superb meat cookery, chiffon cakes and many mixes." She concluded by advising the young couples to look for Gold Star ranges when they shop.



Industrial relations round-table

Prepared by

A. G. A. Personnel Committee

Edited by W. T. Simmons

Assistant Personnel Manager
Philadelphia Electric Co.

● Your emotions can be contagious—In the March issue of *Supervisory Management*, R. B. Conner, M.D., discussed his experience with four men who were in one department of a big company, and who requested transfers, for medical reasons, within two days of each other. The men had worked together, under the same supervisor, for years. An investigation showed that working conditions in the department had not changed during those years. It was ultimately revealed, however, that the supervisor was having trouble at home, and that his worries were following him to work. The result was that his troubled emotions were actually making his subordinates sick.

This is only one of many cases in which an individual's emotional problems have reflected on the work of those about him. Such contagious emotions have had effects on both productivity and safety. The situation is particularly serious when the troubled one is a supervisor, because his attitudes determine to a large extent the job satisfaction of those who work under him. Furthermore, it is the supervisor who should be in a position to spot emotional problems in others and to steer these individuals toward the kind of aid they need.

All of us have personal problems, and it is important to handle them correctly. Usually, it helps to bring these problems out into the open and to look at them squarely. If they seem insoluble, however, the best course is to seek qualified advice.

● Danger in docking—How far can we go in docking an employee for lateness? Docking—an ancient weapon against tardiness—is more than just not paying an employee for time he has not worked. It is penalizing an employee for his lateness by deducting something extra. And here is where trouble with the Wage-Hour Law can begin.

The most obvious source of trouble—the problem of whether an employer has the right to deduct a penalty from an employee's paycheck—may turn out to be less troubling than its effects on figuring overtime pay. The usual amount of docking is so small that the courts have often considered it de minimis, or too small to worry about.

Nevertheless, it has been recommended that an employee should never be docked enough in any given week so that a question can be raised as to whether he has

been paid all the wages to which he is legally entitled. If possible, one of two other things should be done instead:

1. Do not let the employee work during the penalty time; or, if this is not practicable,
2. Offset the docked time against any unworked time for which you may be paying the employee, e.g., rest periods, paid lunch periods.

Besides the question of the docked time itself, there is the problem of counting that time toward overtime computation. Avoid the mistake of not counting penalty time as time worked in figuring overtime for the week.

Another important rule is: Be careful that you do not dock an employee so much that his wage rate drops below the \$1-an-hour legal minimum wage.

Finally, bear in mind that you cannot dock an employee at overtime rates, even though the day on which he was late was an overtime day—that is, he had already worked 40 or more hours in the week.

● Frontiers of the future—In the February issue of *Office Executive*, William C. Mainwaring brought to our attention the thought that, barring a world calamity, we are on the threshold of revolutionary technological and economic advances. In order to live up to the promise of our age, however, he said that we must meet such epic challenges as these:

A population explosion: Trends indicate both a doubling of world population in 50 years and a proportionally smaller working-age labor force supporting proportionally larger groups of older people and children.

Automation: Despite its promises of increased productivity and precision, automation will increase the burden of responsibilities on managerial people.

Leisure: There is the serious problem of people who do not know how to use their new leisure.

In adjusting to these revolutionary changes, he said, we face stiff competition. Survival will require hard thinking, research, long-range planning, leadership, understanding of human motivations, and hard work.

● NLRB rulings: Outsider upsets election

The NLRB has made it clear that it will not tolerate improper interference in its election procedures, whether or not the interferer is a party to the election. The NLRB recently set aside an election, although neither the employer nor the union was guilty of misconduct (Monarch Rubber Co., Inc.).

The NLRB's reason: An outsider had created an "atmosphere of confusion or fear,"

rendering a free choice by the employees impossible.

The interference in this case was in the form of a full-page advertisement which appeared in a city newspaper on the day before an NLRB election at an employer's plant. Addressed to employees, the advertisement listed the benefits to be obtained without the union, and the disadvantages with the union. Among the advantages were full employment, improved working conditions, increased earnings, and a larger future plant. Among the disadvantages were intermittent unemployment, "AND by union domination—a complete LOSS OF YOUR JOB!"

The words "LOSS OF YOUR JOB!" appeared prominently, in large red letters. Slightly below them was this statement: "WE URGE ALL . . . EMPLOYEES TO VOTE TO KEEP THEIR JOBS! VOTE AGAINST THE UNION."

The advertisement was ostensibly sponsored by "local business men," but had actually been inserted, free of charge, by the publisher of the newspaper, after his unsuccessful attempt to get the local Chamber of Commerce to pay for it. A copy of the advertisement had been shown to the employer before publication, and he had indicated neither approval nor disapproval of the project. Immediately after publication, however, the employer called the publisher and disclaimed any and all responsibility for the advertisement.

The NLRB conceded that the employer was not responsible for the advertisement, but nullified the election nevertheless. The advertisement, on its face, threatened the employees with loss of both their jobs and benefits if the union won the election. Such a threat of reprisal, said the NLRB, was ample reason for setting aside the election, and the fact that the employer was not responsible made no difference.

● Hiring-hall pact opens way for vote—A hiring-hall provision in a contract held by the independent Bakery and Confectionery Workers with M. Pressner and Co., Inc., New York, N. Y., opens the door to a rival election petition filed by Local 1499 of the Retail Clerks, according to the NLRB.

The hiring-hall provision, the NLRB says, does not meet the standards of legality established in the *Mountain Pacific* case, and, therefore, the contract is no bar to an election under the new contract-bar rules of the *Keystone Coat, Apron and Towel Supply Co.* case. In the second case, the NLRB ruled that a contract does not bar a rival election petition if it delegates to a union "unlawful control of hire, tenure, seniority, wages, or other terms and conditions of employment." (NLRB Case No. 2-RC-9491, made public on Dec. 24, 1958.)

Morton succeeds Allen as president of Memphis Light, Gas and Water Division

JAMES RAY MORTON has been appointed president of the Light, Gas and Water Division of Memphis, Tenn. He succeeds Major Thomas H. Allen, who died last Dec. 27 at the age of 77.

Mr. Morton, who had been acting president of the division since the death of Major Allen, has been named for the term ending on June 1, 1960.

Mr. Morton joined the division in 1938 as a junior engineer. He subsequently became assistant to the design engineer, design engineer, primary engineer, assistant substation design engineer, chief substation design engineer, and system engineer, all in the division's electric section.

In 1955, Mr. Morton was appointed to the city's Board of Commissioners as vice-

president.

Major Allen served in various engineering capacities throughout the years. From 1916-35, he was vice-president and general manager of Bells Light and Water Co.

He was Commissioner of Streets, Bridges and Sewers for the City of Memphis from 1920-21, Vice-Mayor and Commissioner of Fire and Police in Memphis from 1921-27, state engineer for the Public Works Administration in 1934, a member of the Board of Water Commissioners in 1934, chairman of the Board of Light and Water Commissioners from 1935-39, vice-president and chief engineer of the Board of Light, Gas and Water Commissioners from 1939-40, and president of that board from 1940 until his death.

Major Allen was a member of the American Society of Mechanical Engineers, a fellow of the American Institute of Electrical Engineers and chairman of its Memphis section from 1944-45, and a member of the American Public Power Association, the Tennessee Valley Public Power Association, and the State Board of Architectural and Engineering Examiners.

His awards and citations included the Citation for Meritorious Service from the Tennessee Valley Public Power Association in 1954, and the American Public Power Association's Distinguished Service Award in 1953. In addition, two utility installations are dedicated to him: the Thomas H. Allen Pumping Station and the Thomas H. Allen Electric Generating Station.

Personal
and
otherwise

Walworth names Wallace president, Brown vice-president

JOHN C. WALLACE has been elected president of Walworth Co.

In other developments, Harold Brown has been named vice-president and general sales manager, Fred W. Belz has become chairman of the board, and David R. Pokross has been appointed chairman of the executive committee.

Mr. Wallace, a 38-year-old mechanical engineer, has been with Walworth for two years. During that time, he held three vice-presidential positions, the most recent of which was vice-president and general man-

ager.

Mr. Brown, a 34-year-old engineer, was recently vice-president and sales director of a New England foundry. He was previously vice-president of a New York consulting firm. Mr. Brown has written numerous articles on sales and advertising.

Mr. Belz, formerly president of Walworth, has been with the company for 38 years. He served previously as comptroller, treasurer, vice-president and executive vice-president.

Mr. Pokross has been a member of the firm's executive committee for several years.

Northern Indiana Public Service Co. elects officers and directors

DEAN H. MITCHELL, J. Samuel Hartt and Charles H. Albers have been re-elected directors of Northern Indiana Public Service Co. for three years each.

Mr. Mitchell, who has been president of the company since 1938, was elected a di-

rector in 1933. Mr. Hartt, a consulting engineer, and president of Middlewest Service Co. of Chicago, has been a director since 1942. Mr. Albers, manager of the Chicago Clearing House Association, was named to the board of directors in 1949.

Other directors, whose terms did not expire, are Rollin M. Schaffer, Walter A. McDonough, James S. DeLaurier, Clarence W. Bader, Walter J. Riley, and Walter W. Walb.

Each of the officers of the company was re-elected for a new one-year term.

Michigan Consolidated elects McElvenny president

THE BOARD OF DIRECTORS of Michigan Consolidated Gas Co. has voted to eliminate the office of chairman of the board and to consolidate the duties of that office with the office of president. As a result, Ralph T. McElvenny, who has been chairman of the board and chief executive officer since 1954, has been elected president.

Mr. McElvenny replaces the late Henry Tuttle as president.

Mr. McElvenny was elected a vice-president of the company in 1948 and a direc-

tor in 1949.

In another development, Wilber Hadley Mack was elected to the board of directors.

Mr. Mack is executive vice-president, a director, and general attorney of both American Louisiana Pipe Line Co. and Michigan Wisconsin Pipe Line Co., subsidiaries of American Natural Gas Co., and a director of American Natural Gas.

Mr. Mack joined American Natural Gas in 1952. Before that, he was assistant director of the corporate finance division of the Securities and Exchange Commission.

Utility re-elects directors

ALL OF THE DIRECTORS of Consumers Power Co. have been re-elected. They are Edwin Thorne, vice-president, The First National City Bank of New York; Frank Hamilton, vice-president, Bankers Trust Co., New York City; Dan E. Karn, Alphonse H. Aymond, Jr., Robert P. Briggs, James H. Campbell, Don T. McKone, and Justin R. Whiting, all of Jackson, Mich.; Arthur L. Blakeslee, Kalamazoo, Mich.; Lee D. Ferden, Chesaning, Mich.; Ralph C. Morley, Jr., Saginaw, Mich.; Donald J. Porter, Grand Rapids, Mich.; and Arthur H. Sarvis, Flint, Mich.

Nemeyer wins Milwaukee Press Club award

S. LLOYD NEMEYER, president, Milwaukee Gas Light Co., has won the Milwaukee Press Club's annual Headliner award. The award, which was presented at a special dinner, is given for outstanding service to the community.

Mr. Nemeyer is a director of the Milwau-

kee Association of Commerce and chairman of its industrial division. He is also a director of the Community Chest, a vice-president of the Milwaukee county council of the Boy Scouts, a past president of the Milwaukee Pops Orchestra, and chairman of the board of the Wisconsin Utilities Association.

Navarre succeeds Paul

DONALD C. NAVARRE has been named general sales manager of Michigan Gas Utilities Co. He succeeds Bernard C. Paul, who resigned in order to accept a similar position with the Gas Division of the City of St. Petersburg, Fla. Mr. Navarre was previously advertising manager.

Long named vice-president of Philadelphia Electric

J. HENRY LONG has been elected vice-president in charge of gas operations of Philadelphia Electric Co. He will be responsible for gas production and distribution in the Bucks, Montgomery and Chester county areas served by the company.

Mr. Long joined



J. Henry Long

Philadelphia Electric in 1927 as an engineering assistant in the gas department in Chester. He later became superintendent of coke ovens, plant superintendent, superintendent of gas plants, superintendent of gas production, general superintendent of gas production, general superintendent of gas operations, and manager of gas operations.

Mr. Long is a member of the American Gas Association's Gas Operations Research Committee.

He is also a past president of both the Pennsylvania Gas Association and the Society of Gas Operators.

Winnebago Natural Gas elects officers, directors

WINNEBAGO NATURAL GAS CORP., Kaukauna, Wis., elected a slate of officers and directors at its recent annual stockholders meeting.

The officers are J. F. Cota, president and general manager; E. H. Schmidt, vice-presi-

dent; B. F. Crawford, secretary and treasurer; R. H. Lawrenz, assistant treasurer; and W. T. Rieser, assistant secretary.

The directors are J. C. Colman, Milton Falcoff, George Newlin, and Messrs. Schmidt and Crawford.

Richardson named vice-president of Cambridge Gas

ELLO H. RICHARDSON has been named vice-president and general manager of Cambridge Gas Co., a subsidiary of the New England Gas and Electric Association.

Mr. Richardson joined Cambridge Gas in 1925 as an engineer. He subsequently became

superintendent of production and, in 1954, was named assistant general manager. In 1956, he succeeded Gordon G. Howie as general manager.

Mr. Richardson is a member of A. G. A. and the New England Gas Association.

Claude F. Machen promoted

CLAUDE F. MACHEN has been elected a vice-president of Boston Gas Co. He will supervise market development, rates, personnel, and the company's Charlestown electric division.

Mr. Machen joined Boston Gas in 1936. He has been assistant to the president since 1954.

Mr. Machen is a director of the New England Gas Association, and a member of A. G. A.



Claude F. Machen

McClintock heads Sunray

JAMES P. MCCLINTOCK has been elected president of The Sunray Stove Co. He succeeds George E. Mumma, who is remaining chairman of the board. Mr. McClintock was formerly vice-president for manufacturing.

W. A. Strauss promoted

WILLIS A. STRAUSS has been elected executive vice-president of Northern Natural Gas Co. He was formerly administrative vice-president.

Names in the news—a roundup of promotions and appointments

UTILITY

R. M. McIntyre has been named manager of residential sales for Southern Counties Gas Co. Mr. McIntyre, who joined the firm seven years ago, was previously market development manager. In another development, **Katherine L. Rathbone** has retired as home service supervisor. She joined the company in 1927, and served as supervisor for 16 years. Miss Rathbone is a past chairman of A. G. A.'s Home Service Committee. She has been succeeded by **Mrs. Shirley McGillicuddy**.

Perry F. Roys has been appointed manager of area development for Northern Natural Gas Co. Mr. Roys was formerly employed as director of the Montana State Planning Board.

The Ohio Fuel Gas Co. has announced a group of personnel changes. **Charles H. Wirth** has been named to the new post of manager of special promotions. He joined the company in 1936 and has been Columbus district business promotion manager since 1952. Mr. Wirth has been succeeded in Columbus by **Gordon W. Collier**. Mr. Collier joined Ohio Fuel in 1946, and became Toledo district business promotion manager in 1955. He has been succeeded by **George C. Morgan**, who joined the firm in 1938, and has been Fremont district business promotion manager since 1955. **Harold G. Gibb** has been promoted to assistant manager of purchasing and stores. He joined Ohio Fuel in 1933, and has served as general cashier since 1948. **Carolyn J.**

Krause has been named Steubenville district home service director. She became associated with the firm in 1957, and was previously Fremont district home service director. **Frank McCament** has been appointed general superintendent of production. He joined the company 37 years ago, and became Mt. Vernon district superintendent of production in 1957. He succeeds **Carl J. Hauck**, who was recently promoted to assistant manager of the production department. **Donald C. Hubbard** has been named assistant general superintendent of production. He joined Ohio Fuel in 1953, and became production engineer in 1954. **Richard G. Cook** has been appointed assistant chief geologist. He joined the company in 1946, and was named storage engineer in 1954. **Robert T. Patridge** has been promoted to assistant superintendent of the engineering and map section. He started with Ohio Fuel in 1949, and became engineering and map office engineer in 1958. **Richard G. Darrow** has been named senior engineer in the engineering and research department of Columbia Gas System Service Corp. He joined the service corporation in 1953, and has been serving as senior engineer in the gas engineering department. **Louise Weisberg** has been named a kitchen planning consultant for Ohio Fuel. **Ray A. Norris** retired as Cambridge office accounting supervisor on April 1. He joined Ohio Fuel in 1927, and became supervisor in 1952.

Edward V. McAssey has been promoted to assistant manager of the transportation

department for Consolidated Edison Co. of New York, Inc. He joined the company in 1929, and became assistant general superintendent in the transportation department's equipment and assignment bureau in 1951.

The Connecticut Light and Power Co. has announced several personnel changes. **Stanley C. Killeen** has been appointed to the new position of trade cooperation manager. He was formerly Meriden district residential sales manager. He will be succeeded in Meriden by **Joseph R. Cronin**. Mr. Cronin, who joined the firm in 1934, has been serving in the Meriden sales department. **Elmer J. Major** has been named to the new post of division residential sales manager for the central division. He joined Connecticut Light and Power in 1926, and became Thompsonville district residential sales manager in 1952. He has been replaced in Thompsonville by **Robert S. D'Vileskis**, who has been in charge of Bristol district residential sales. **John R. McDonnell** has been appointed to succeed Mr. D'Vileskis as Bristol supervisor. Mr. McDonnell, who joined the company in 1946, has been serving in the Bristol sales department.

MANUFACTURER

Donald D. Arnold has been named New England regional sales manager for the architectural porcelain division of Caloric Appliance Corp. He was previously associated with Commercial Builders, Inc.,

Newton, Mass., and Seaport Metals, Boston. G. C. Verkerk has been named a division manager. He will be in charge of the metal preparation and porcelain enamel departments. He was formerly employed by The O. Hommel Co. and Ferrow Corp.

Norge Division of Borg-Warner Corp. has announced several personnel changes. George Kipling has become national service training supervisor. He was previously assistant national service manager for Altorfer Bros., Peoria, Ill., home appliance manufacturer. E. John Sauser has been named general traffic manager. He was formerly associated with Crane Co. Major Horney has been appointed district manager for Alabama, Florida, Georgia and South Carolina. He was previously employed by Eureka-Williams Corp.

W. M. Hollingsworth has been promoted to the new post of assistant to the president of Temco, Inc. He joined the company in 1958, and has been serving as manager of special products and services. He will also

continue in that position.

William M. Connor has been promoted to general manager of Rockwell Manufacturing Co.'s Statesboro, Ga., plant. He joined the company in 1929, and has been assistant to the vice-president of the meter and valve division since 1956. Samuel W. Brown has transferred to the Uniontown, Pa., plant as assistant general manager. He has been general manager at Statesboro since 1957. Michael P. Groom has been named branch manager of the new El Paso sales office of the meter and valve division. He joined the firm in 1946, and has been branch manager at Detroit since 1957. John R. Applegate has succeeded Mr. Groom in Detroit. Mr. Applegate joined the company in 1948, and has been assistant product manager-lubricant sales since 1957.

N. Bernard Gussett, president of Iowa Power and Light Co., has been elected a director of The Maytag Co. He succeeds the late Frederick W. Hubbell. Denny D. Hevener and Gerald S. Butts have been

appointed regional managers for southern Florida. Mr. Hevener's headquarters will be in West Hollywood, Mr. Butts' in Miami.

Richard B. Schmidt has been named general sales manager of Mueller Climatrol division of Worthington Corp. He joined the firm in 1947, and has been sales manager since 1958. George M. Hase has been appointed manager of product planning. He joined the company in 1948, and has been serving recently as manager of sales engineering. Mr. Hase has been succeeded by Robert A. Hoehne, who was previously a sales engineer.

OTHER

Walter C. Bomhoff, vice-president and general manager of Kentucky-West Virginia Gas Co., a subsidiary of Equitable Gas Co., has been named to the board of directors of the Second National Bank of Ashland, Ky.



Henry Tuttle



president, Michigan Consolidated Gas Co., and a director of A. G. A., died March 26 at Henry Ford Hospital in Detroit after a five-month illness. He was 62.

Mr. Tuttle started as a serviceman in Michigan Consolidated Gas' shop department in 1920. He subsequently became

supervisor of merchandise orders, general bookkeeper, assistant to the chief accountant, assistant secretary, assistant treasurer, and, in 1939, first assistant treasurer and assistant secretary.

Mr. Tuttle was elected vice-president and controller in 1940, a director in 1944, vice-president and treasurer in 1945, executive vice-president in 1949, and president in 1952.

He was vice-president, treasurer and secretary from 1948-49 of the predecessor parent company of Michigan Consolidated Gas. In 1951, he was elected a director of American Natural Gas Co., of which Michigan Consolidated Gas is now a subsidiary.

Mr. Tuttle was treasurer of Michigan Wisconsin Pipe Line Co. from 1945-50, vice-president and treasurer from 1947-50, and a director from 1947-51. He was also a director and treasurer of Austin Field Pipe Line Co. from 1946 until 1951, when that company was absorbed by Michigan Consolidated Gas.

Mr. Tuttle served as a consultant to the gas planning division of the Petroleum Ad-

ministration for Defense, Department of the Interior, during World War II.

He was a member of A. G. A., and was elected to the board of directors in 1957. He was also a member of the Independent Natural Gas Association, and a past president and member of the Michigan Gas Association. In addition, he was a trustee of the Institute of Gas Technology, and a member of both the Engineering Society of Detroit and the Detroit Zoological Society.

Mr. Tuttle was also a member of the board of directors of the Detroit Board of Commerce, United Foundation, Detroit Convention and Tourist Bureau, Michigan Post of American Ordnance Association, and Metropolitan Detroit Building Fund. He was a trustee of both the Institute for Economic Education and the Citizens Research Council, and a member of the executive committee of the Detroit Tomorrow Committee.

In addition, Mr. Tuttle was a member of the advisory board of the Detroit chapter of the American Red Cross, the Businessmen's Advisory Committee of Wayne University, and the finance committee of the Boy Scouts' Detroit Area Council.

Mr. Tuttle is survived by his widow, Marjorie, and a brother, Irving.

Harold F. Sanders

vice-president, treasurer and secretary of Middle South Utilities, Inc., died April 14 of a heart attack. He was 53.

Mr. Sanders became secretary and treasurer of the holding company in 1949, when it was formed. He was elected vice-president and a director last June.

Mr. Sanders entered the utility industry in 1921, when he was employed by Electric Bond and Share Co. He later served two years with Ebasco Services.

In 1937, he joined Electric Power and Light Corp. He was elected assistant secretary and assistant treasurer of the corporation in

1938. Seven years later, he was appointed secretary and treasurer. In 1949, Middle South Utilities was organized from Electric Power and Light.

Mr. Sanders was a member of the Controllers Institute of America, the American Management Association, and the American Society of Corporate Secretaries.

Survivors include his widow, Florence, a son, a daughter, and two grandchildren.

Dale M. Parker

former secretary of The Columbia Gas System, Inc., died March 29. He was 67.

Mr. Parker joined Columbia Gas in 1940. He served as secretary from 1941 until his retirement in 1956.

He was one of the founders of the American Society of Corporate Secretaries, and served as head of the organization during the 1949-50 term.

Mr. Parker began law practice in New York in 1919. He later became a director and vice-president of W. A. Harriman and Co. Inc. From 1933-36, he held a seat on the New York Stock Exchange.

During his career, he also served as agent for foreign business interests in New York, and worked abroad as a legal and business representative of banks and brokerage houses.

Mr. Parker is survived by his widow, Gladys.

Ansel B. Huyck

former vice-president and chief engineer of The Brooklyn Union Gas Co., died April 19. He was 68.

Mr. Huyck joined the utility 22 years ago. He was responsible for many innovations in the gas industry, including the use of Diesel engines for gas compressors. He retired in 1953.

Survivors include his widow, Altie, three sons, and five grandchildren.

Personnel service

SERVICES OFFERED

Pakistani wishes position as apprentice to learn of United States natural gas company operation. Educated at the University of Punjab with courses in gas technology; Westminster Technical College, London; and completed examinations in gas technology (Parts I and II) of City and Guilds of London. 1952.

Sales Manager—broad experience in planning and assisting in setting marketing policies and strategy; planning, preparing and executing sales programs; supervision of and contact with district managers and distributors on national basis; merchandising; pricing and sales promotion. Experience also covers managing wholesale salesmen; salesmen's compensation; sales training; sales presentations; advertising—national and local; sales promotion; direct mail and copywriting. Married. Will relocate. 1953.

Executive—ability to interest associates in performing their tasks more enthusiastically and energetically. Good organizer. Twenty-two years of varied experience in management, public relations, public speaking, advertising, sales, accounting and operation of natural gas and combination properties. 1954.

June Graduate—gas-fuel department, Southern Technical Institute, unit of Georgia Tech. 10 years previous experience, desires position in technical or engineering type work. Service obligation fulfilled. Married. Will relocate. 1955.

Sales Engineer—desires position as sales manager in industrial gas field. Twelve years experience with large eastern utility selling gas for all industrial applications. B.S. in Industrial Engineering and Master in Business Administration. Prefer locating in New England or Middle Atlantic states area. Age 36. 1956.

Accounting Executive—over 27 years experience in all phases of utility accounting (nine years in holding company office, 18 years on operating utility properties). Last 16 years treasurer, secretary and director of gas distributee company, last 5 years of which also treasurer and secretary of interstate gas pipeline company. Detailed resume on request. Age 48. 1957.

Gas Engineer—graduate mechanical engineer with six years experience in all phases of gas warm air furnace business. Broad experience in packaging and cost reduction programs. Seeking position heading up design and development program immediately available. Salary open. Married, two children. Age 31. 1958.

Gas Air Conditioning Sales Engineer—experienced gas air conditioning engineer, managed air conditioning distributorships, operated own air conditioning contracting business, sold GE heat pumps, last two years district sales manager Arkla Air Conditioning. Will locate anywhere. Desires opportunity with gas utility which plans aggressive gas air conditioning sales activities. 1959.

POSITIONS OPEN

Manager—Gas Property Pennsylvania—Eastern Pennsylvania utility has openings for managers. Experience in operation and distribution

necessary. In reply please state age, education and experience. 0889.

Industrial Gas Engineer—nationally organized consulting firm needs gas engineer under 40 with diversified experience in the sale of industrial and large commercial gas applications. Familiarity with industrial service work desired. Excellent opportunity for advancement. Salary open. Send complete resume of vocational and personal history. 0890.

Field Sales Engineer-Gas Meter Specialist—two to four years experience in the gas utility field in engineering capacity. Need strong desire and personality for sales work. Will work as application engineer in our Meter Sales Group for one to two years. After completing this work as an application engineer, will be assigned large territory as meter specialist in sales. Age, 25-35. Salary, \$5200-\$8500. 0891.

Manager-Operator—35-45 years old. Small natural gas property—southern community—excellent advancement possibilities. Salary commensurate with education and experience. 0892.

Operations Manager—new natural gas utility seeks experienced man to be in charge of all operations, including city gate stations, mains and service construction and appliance servicing. Attractive salary, fringe benefits and stock option. 0893.

General Superintendent-Gas Operations—fast growing and progressive midwest natural gas utility, 16,000 customers, seeking graduate engineer to take immediate position as superintendent in charge of distribution and service with possibilities for advancement to higher positions. Prefer man age 40 with proper background, experience and executive ability to direct supervisors and foremen. Send full resume of education, experience, age, references and salary requirements. 0894.

Industrial Engineer—large southeast Pennsylvania utility has two openings on industrial engineering staff. I.E. degree with experience or equivalent. Excellent working conditions, and fringe benefits. Salary commensurate with experience. (1) Work Performance Measurement—experience with time study, M.T.M., work sampling and other measurement techniques. Knowledge of productivity reporting systems, methods improvements and systems studies desirable. (2) General Industrial Engineer—experience with systems studies, materials handling, time-motion study, drafting and blueprints, flow process studies, etc. 0895.

Engineer-Development—graduate engineer with experience in electro-mechanical gadgets, heat transfer on gas combustion problems. 0896.

Gas Consulting Engineer—unusually attractive opportunity with exceptional future prospects is available to a graduate engineer with at least 10 years diversified experience in the gas industry, including engineering, operating and construction phases. Previous consulting experience in this field desirable. Salary open, send complete resume. 0897.

Product Engineer—leading manufacturer of air conditioning equipment has position openings for project engineers for gas furnace and residential air conditioners. Must be college graduate with two years experience. All replies held in strict confidence. Send complete resume. 0898.

retary; and R. J. Kelley, treasurer.

The directors are H. S. Eberhard, president, Caterpillar Tractor Co.; G. L. Luthy, president, Commercial National Bank of Peoria; H. J. Neumiller, president, Humitube Manufacturing Co.; C. V. O'Hern, member of the law firm of O'Hern, Alloy, O'Hern and Wombacher; R. J. Saner, vice-president, Springfield Marine Bank; and Messrs. Schlink, Edwards, Hathway and Babcock.

CONVENTION CALENDAR

1959

JUNE

- 7-11 •American Society of Heating and Air Conditioning Engineers, Semi-annual Meeting, Vancouver, B. C.
- 11-12 •Accounting Section Managing Committee Meeting, The Homestead, Hot Springs, Va.
- 22-23 •Michigan Gas Association, Grand Hotel, Mackinac Island, Mich.
- 22-24 •American Society of Refrigerating Engineers, Annual Meeting, Lake Placid Club, Lake Placid, N. Y.
- 22-25 •Canadian Gas Association, Annual Meeting, Empress Hotel, Victoria, Canada.

JULY

- 20-24 •Western Summer Radio-Television and Appliance Market, Western Merchandise Mart, San Francisco, Calif.

AUGUST

- 9-13 •American School Food Service Association, Civic Auditorium, Brook Hall, San Francisco, Calif.
- 24-28 •The American Dietetic Association, Los Angeles, Calif.
- 26-28 •Mid-West Gas Association, Gas School and Conference, Iowa State College, Ames, Iowa.

SEPTEMBER

- 4 •New Jersey Gas Association, Annual Convention, Berkeley-Carteret Hotel, Asbury Park, N. J.
- 9-11 •Pacific Coast Gas Association, Annual Meeting, Hotel Ambassador, Los Angeles, Calif.
- 14-18 •A. G. A. Industrial Gas School, Penn-Sheraton Hotel, Pittsburgh, Pa.
- 15-16 •Annual Accident Prevention Conference, The Dinkler Plaza Hotel, Atlanta, Ga.
- 17-18 •A. G. A. Great Lakes Public Relations Workshop, Dearborn Inn, Dearborn, Mich.
- 22-23 •Operating Section Organization Meeting, Hotel Roosevelt, New York, N. Y.
- 24 •New England Gas Association Safety Conference, Sheraton Plaza, Boston, Mass.

Central Illinois Light re-elects all officers, directors

ALL OFFICERS AND DIRECTORS of Central Illinois Light Co. were re-elected at the company's recent annual stockholders meeting.

The officers are T. A. Schlink, chairman of the board; E. D. Edwards, president; G. W. Hathway, executive vice-president; W. W. Babcock, vice-president; E. W. Stone, vice-president; Q. W. Wellington, vice-president; H. A. Blair, comptroller and sec-

A.G.A. advisory council

E. R. ACKER.....Poughkeepsie, N. Y.
 B. C. ADAMS.....Kansas City, Mo.
 J. B. BALMER.....New York, N. Y.
 F. M. BANKS.....Los Angeles, Calif.
 L. L. BAXTER.....Fayetteville, Ark.
 D. B. W. BROWN.....New York, N. Y.
 A. G. BUR.....Green Bay, Wis.
 F. D. CAMPBELL.....Cambridge, Mass.
 STUART COOPER.....Wilmington, Del.
 W. C. DAVIS.....Chicago, Ill.
 J. F. DONNELLY, SR.....Milwaukee, Wis.
 E. H. EACKER.....Boston, Mass.
 W. M. ELMER.....Owensboro, Ky.
 ELISHA GRAY II.....St. Joseph, Mich.
 L. C. HARVEY.....Syracuse, N. Y.
 J. J. HEDRICK.....Chicago, Ill.
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 PAUL KAYSER.....El Paso, Texas
 JULIUS KLEIN.....Jenkintown, Pa.
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 G. T. MULLIN.....Minneapolis, Minn.
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Chairman—Charles G. Barndt, Lone Star Gas Co., Dallas, Texas.

General Research Planning Committee

Chairman—E. H. Smoker, The United Gas Improvement Co., Philadelphia, Pa.

General Public Information Planning Committee

Chairman—R. J. Rutherford, Worcester Gas Light Co., Worcester, Mass.

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Chairman—E. R. Acker, Central Hudson Gas & Electric Corp., Poughkeepsie, N. Y.

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Chairman—N. B. Bartollette, The Hartford Gas Co., Hartford, Conn.

APPROVAL REQUIREMENTS COMMITTEE

Chairman—R. I. Snyder, Southern California Gas Co., Los Angeles, Calif.

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Pres.—Henry L. Purdy, British Columbia Electric Co., Ltd., Vancouver 1, B. C.
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 Exec.-Sec.—Dale F. Hansman, 135 West Wells St., Milwaukee, Wis.



MODERN Gas Service Co.
EVERYWHERE U. S. A.

INTEROFFICE MEMORANDUM

To: The Boss

From: B. T. You

You know how anxious I am to learn more about this great industry of ours. Here is a way I can do so. The American Gas Association is holding its 41st annual convention in Chicago from Oct. 5-7, and everybody is going to be there. As you know, the theme will be "New Horizons for Growth And Service." Top speakers from all over the nation will bring everybody up to date on what's ahead for the gas business.

All the sessions will be held at the Conrad Hilton Hotel — the world's largest. This will make it easier than ever to get from one meeting to another. There will be talks on research, finance, economics, sales, legislation, energy, gas supply, accounting, gas production, distribution and transmission, and many other subjects.

I would like to attend the special luncheon for management on Monday, Oct. 5, and I promise to get up in time to make the Home Service Breakfast the next morning. I also wouldn't want to miss the sales speaker at the final luncheon on Wednesday, Oct. 7.

The A.G.A. Monthly says that the Convention will have lots of new features this year, and you can be sure that I will give you a full report. My friends tell me that Chicago is the "host city of the nation," and that special entertainment is planned for the wives.

I know somebody has to stay home to tend the shop. But if I'm one of the lucky ones to go to the Convention, can I send in my reservation now?

You know what they say — the early bird gets the room!

B. T. You

American Gas Association

HEADQUARTERS, 420 LEXINGTON AVE., NEW YORK 17, N. Y.

A. G. A. LABORATORIES • 1032 East 62nd Street, Cleveland 3, Ohio • 1425 Grande Vista Avenue, Los Angeles, Calif.
WASHINGTON OFFICE • Room 804, Securities Bldg., 729-15th St., N.W., Washington 5, D. C.

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Director, Bureau of Statistics.....DANIEL PARSON

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Calif.

, Md.

Tenn.

Texas

N. Y.

N. Y.

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Texas

N. Y.

, Ohio

is, Mo.

ort, La.

to, Va.

gh, Pa.

ia, Pa.

, N. Y.

s, Neb.

Canada

r, N. Y.

ora, Ill.

hia, Pa.

, Mass.

ugh, Pa.

KSTROM

NNINGS

LDON

TAMMER

MULLINS

WALTER

ROBEY

CHANET

A. BEALL

COOPER

INSKEEP

N. LAUX

HOLSON

SEGELER

MORRIS

ABBOTT